TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1902.

No. 179.

BRUSH ELECTRIC COMPANY, APPELLANT,

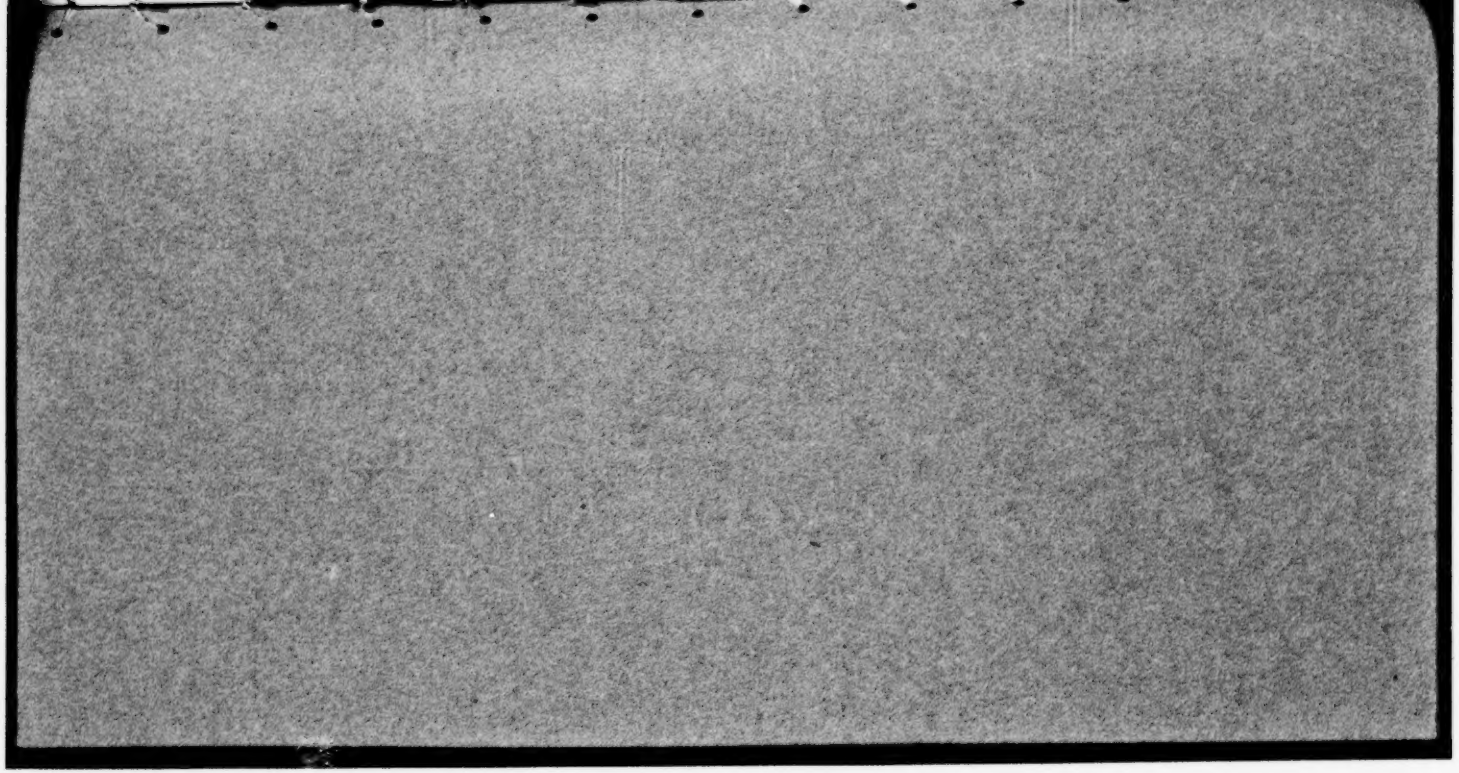
vs.

THE CITY OF GALVESTON, H. O. SAPPINGTON, AS MAYOR-PRESIDENT OF THE CITY OF GALVESTON, *ET AL.*

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

FILED SEPTEMBER 26, 1901.

(28,507)



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1 *Precipe for Record on Appeal.*

Filed June 1, 1921.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To the Clerk of said Court:

The hereinafter indicated portions of the record in this cause are to be incorporated into the transcript of the record on appeal of said cause to the Supreme Court of the United States, to wit:

(1) Bill of Complaint.

(2) Order setting cause for hearing on application for temporary restraining order.

(3) Defendants' answer.

(4) Order granting plaintiff leave to amend bill.

(5) Amendment to plaintiff's bill.

(6) Order granting defendants leave to amend answer.

(7) Defendants' amended answer.

(8) Order appointing L. R. Bryan, Special Master.

(9) Stipulation of the parties re temporary restraining order and order of Court thereon.

(10) Temporary restraining order.

(11) Report of Special Master.

(12) Defendants' exceptions to Master's report.

(13) Plaintiff's exceptions to Master's report.

(14) Decree.

(15) Assignment of Errors.

(16) Petition of plaintiff for appeal.

(17) Order allowing appeal and fixing amount of appeal bond.

(18) Notice of lodgment of statement of evidence and acceptance of service thereof.

2 (19) Statement of evidence and order of District Judge approving same.

(20) Stipulation of the parties re original exhibits, valuations, appraisals, etc. to be sent up to the Supreme Court of the United States.

(21) Order directing original exhibits, valuations, appraisals, etc. to be sent up to the Supreme Court of the United States.

(22) Appeal bond and approval thereof.

(23) Citation on appeal and acceptance of service thereof and waiver of further notice.

(24) Order extending and enlarging time for filing record on appeal in the United States Supreme Court to September 30th, 1921.

(25) This precipe and acceptance of service of notice thereof and waiver of further notice.

(26) In accordance with Section 2 of Rule 8 of the Rules of the Supreme Court of the United States you will prepare and attach to the transcript of the record, though not a part thereof, a certified copy of the opinion of the District Court in this case.

FRUEAUFF, SLOAN & ROBINSON,
TERRY, CAVIN & MILLS,
Attorneys for Brush Electric Company,
Plaintiff and Appellant.

Service of notice of the filing of the within and foregoing precipe is hereby accepted and the receipt of a copy thereof acknowledged by and for the defendants and appellees in said cause and all further notice thereof is hereby waived this 1st day of June, 1921.

FRANK S. ANDERSON,
City Attorney;
McDONALD & WAYMAN,
Attorneys for City of Galveston et al.,
Defendants and Appellees.

(Indorsements:) No. 38 Eq. Brush Electric Co. v. City of Galveston et al. Precipe for record on Appeal. Filed 1st day of June, 1921. L. C. Masterson, Clerk, by G. Predecki, Deputy.

3 *Caption.*

In the District Court of the United States for the Southern District of Texas, Holding Sessions at Galveston.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON; H. O. SAPPINGTON, Mayor-President of the City of Galveston; J. C. Purcell, Commissioner of Finance and Revenue of the City of Galveston; John H. Gernand, Commissioner of Streets and Public Property of the City of Galveston; George E. Robinson, Water Works and Sewerage Commissioner of the City of Galveston, and A. P. Norman, Police and Fire Commissioner of the City of Galveston.

Be it remembered, that in the above entitled and numbered cause, lately pending in said Court, at Galveston, and in which a Final Decree was rendered at the Regular January, 1921 term thereof, to-wit: on February 28th, 1921, and filed and entered March 1, 1921, Honorable J. C. Hutcheson, Jr., United States District Judge for the Southern District of Texas, presiding, the following proceedings were had and taken, in said Court, to-wit:

4 *Bill of Complaint.*

Filed August 21, 1919.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To the Honorable Judges of said Court:

Comes now Brush Electric Company, a corporation duly and legally incorporated, organized and existing under and by virtue of the laws of the State of Delaware and having charter powers, among other things, to buy, acquire, lease, construct, work, maintain and

operate plants, works, systems, poles, pole lines, conduits, ducts and subways for the production, supply, distribution and sale of electricity for light, heat, power and any other use to which electricity is or hereafter may be applied, and having a permit, duly and legally issued to it by the Secretary of State of the State of Texas, permitting it to engage in said business in said State, and having its principal office and domicile in the City of Dover in said State of Delaware, and its principal office and place of business in Texas, in the City and County of Galveston in said State, said Brush Electric Company being hereinafter styled "plaintiff" and complains of the City of Galveston, a municipal corporation, and of Honorable H. O. Sappington, as Mayor-President of the City of Galveston, and of J. C. Purcell, as Commissioner of Finance and Revenue of the City of Galveston, and of John H. Gernand, as Commissioner of Streets and Public property of the City of Galveston, and of George E. Robinson, as Water Works and Sewerage Commissioner of the City
5 of Galveston, and of A. P. Norman, as Police and Fire Commissioner of the City of Galveston, said Mayor-President and said Commissioners composing and constituting the governing body of said City of Galveston, known as the Board of Commissioners of the City of Galveston, and said City of Galveston and said Board of Commissioners of the City of Galveston and said Mayor-President and Commissioners being hereinafter called "defendants" and for cause of complaint avers:

I.

1. That said plaintiff is a citizen of the State of Delaware, United States of America, and a resident of the City of Dover in the County of Kent, in said State.

2. That said defendant, City of Galveston, is a body corporate and politic and is a municipal corporation and a political subdivision of the State of Texas and is a citizen of said State and is located in and a resident of the County of Galveston in said State and in and of the Southern District of Texas, and each and all the other defendants are citizens of said State of Texas and residents of the Southern District of said State and of the City and County of Galveston in said State.

3. That this is a suit of a civil nature and is a suit in equity wholly between citizens of different States, and that the amount and matter involved and in controversy exclusive of interest and costs is in excess of three thousand dollars, and arises under the Constitution and Laws of the United States.

II.

1. That plaintiff's predecessor, Brush Electric Light and Power Company of Galveston, a private corporation, whose title plaintiff has, received two franchise grants from said City of Galveston, one by an Ordinance passed on or about February 21, 1895, granting

to said Brush Electric Light and Power Company of Galveston the right to set poles, pinabutments, wires and other necessary
6 fixtures along the streets and alleys of said City of Galveston for the purpose of furnishing electric light and power for the term of twenty five years from date of the passage of said Ordinance; and the other by an Ordinance adopted on or about March 16th, 1911, granting to said Brush Electric Light and Power Company of Galveston the right, privilege and franchise to own, set, construct, maintain and operate for the period of fifty years from and after the date of the passage of said ordinance, poles, pin-abutments, wires and other necessary fixtures along, in, over and upon the streets and alleys in said City of Galveston for the purpose of furnishing electric light and power.

2. That both said franchises were granted subject to the regulations provided in said ordinances, all which have been at all times faithfully complied with by plaintiff and its said predecessor; and they both required the acceptance thereof in writing by the grantee therein named and said grantee so accepted the same; and both provided that the rights and franchises thereby granted should not be assigned without the assent of the said City of Galveston first obtained.

3. Both said ordinances provided that whenever the charges fixed by the grantee for lights shall become unreasonable or beyond what such lights can reasonably be supplied for, then the right is reserved to the said City of Galveston to fix a maximum rate to be charged by said grantee for lights furnished either to the City or to other consumers.

4. That on or about March 23, 1911, said Board of Commissioners of the City of Galveston duly passed and adopted an ordinance granting to said Brush Electric Light and Power Company of Galveston the assent and consent of the said City of Galveston for said Brush Electric Light and Power Company of Galveston, at any time within twelve months after the passage of said ordinance, to transfer all the permission, rights, privileges and franchises
7 granted to it by said ordinance passed and adopted by said Board of Commissioners on or about the 16th day of March, 1911, and providing that said Brush Electric Light and Power Company of Galveston should within thirty days after the date of any such assignment from it deposit in the office of the City Secretary of the City of Galveston the written acceptance of such assignee or assignees of said assignment and all the terms, conditions and obligations of said ordinance of March 16th, 1911, and obligating such assignee or assignees to faithfully carry out and perform all the stipulations, conditions, terms and obligations imposed upon said Brush Electric Light and Power Company of Galveston by said ordinance of March 16th, 1911; and thereafter, to-wit, on March 18, 1912, said Brush Electric Light and Power Company of Galveston conveyed, assigned and transferred all the permission, rights, privileges and franchises granted to it by said ordinance of

March 16th, 1911, to this plaintiff, Brush Electric Company, and said Brush Electric Company duly executed said written acceptance and obligation required by said ordinance of March 23, 1911, and said Brush Electric Light and Power Company of Galveston and said Brush Electric Company on April 15th, 1912, duly deposited the same in the office of the City Secretary of said City of Galveston, as provided by said last mentioned ordinance, and said plaintiff is now the owner and holder of all the permission, rights, privileges and franchises so conveyed and assigned to it, as well as of all other property, assets and rights of every kind whatsoever formerly owned by said Brush Electric Light and Power Company of Galveston, and is now, and ever since said conveyance and assignment has been, engaged in and carrying on in the City of Galveston and in its streets and alleys the business aforesaid permitted and authorized by said Ordinance of March 16th, 1911, and using and exercising the permission, rights, privileges and franchises by said Ordinance granted to plaintiff's said assignor and of which plaintiff is the owner and holder as aforesaid, as well as of all other property, assets and rights of every kind whatsoever formerly belong-
8 ing to said Brush Electric Light and Power Company of Galveston, the latter having been conveyed to plaintiff March 30th, 1912.

5. That prior to said transfers and assignments said Brush Electric Light and Power Company of Galveston had built up in said City of Galveston an extensive business in the sale of electricity and electric current and appliances for using the same, and an extensive, adequate and efficient plant, appurtenances, equipment and distribution system for the manufacture, production, generation, sale and distribution of electricity and electric current for furnishing light, power, heat and all purposes for which such current is ordinarily used, all which was in good condition when so transferred to plaintiff, and to all which plaintiff succeeded and of all which it became the owner by said transfers and assignments so made to it as aforesaid, and plaintiff has ever since added to, extended, improved and maintained the same in as good condition and as high a state of efficiency as its earnings permitted.

6. That prior to said assignment and transfer by said Brush Electric Light and Power Company of Galveston to plaintiff, and at the time of such assignment and transfer, and ever since, there was and has been another Company engaged in the business of the manufacture, sale and distribution of electricity and electric current in the City of Galveston, to-wit: the Galveston Electric Company, and until March, 1915, the City of Galveston never undertook to adopt or fix rates to be charged for electric current for either lights or power; and by the terms of both said franchise ordinances aforesaid said City of Galveston only reserved the right to fix a maximum rate to be charged by the grantee therein for electricity for furnishing lights, and prior to about March, 1915, the rates charges for electric current for both light and power were made by this plain-

tiff and said Galveston Electric Company, respectively, for their respective customers supplied with such current.

9 III.

1. That on March 25, 1915, the Board of Commissioners of said City of Galveston passed and adopted an ordinance fixing and determining the following schedule of rates as the maximum rates to be charged by either said plaintiff, Brush Electric Company, or said Galveston Electric Company for electricity furnished to the City or to the consumers of either of said corporations:

Lighting.

First	30	K. W. H. monthly at	12.7	cents.	
Next	30	"	"	11	"
"	400	"	"	10	"
"	400	"	"	9	"
"	400	"	"	7	"
"	800	"	"	6	"
All	excess	"	"	4	"

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from date of billing, except on minimum bills which are net.

Minimum charge on lighting customers is to be $1.00 per kilowatt connected transformer load. All residences with not to exceed 20 outlets shall be billed at 75 cents minimum.

First	30	K. W. H. Monthly at	10	cents net.		
Next	30	"	"	9	"	"
"	60	"	"	8	"	"
"	500	"	"	6	"	"
"	500	"	"	5	"	"
"	1,500	"	"	4	"	"
All	excess	"	"	3.5	"	"

A discount of 5% will be allowed on the gross amount of all bills paid within 10 days from the date of billing.

Minimum charge $1.00 per horsepower per month up to 5 horsepower, and 50 cents per horsepower for all additional. This includes heating devices, fans and all other apparatus classed as power.

Sign and Window Lighting.

One cent (1¢) connected watt per month for 2,000 horsepower yearly use. A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Wholesale Rate.

For customers having a half hour demand of 50 horse-
10 power and over:

First	30	K. W. H. per K. W. demand monthly					10 cents.
Next	2,000	"	"	"	"	"	5 "
"	20,000	"	"	"	"	"	1.5 "
All K. W. H. in excess		"	"	"	"	"	1 "

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Minimum charge $1.00 per K. W. of demand per month on yearly basis.

Battery Charging off Peak.

First	200	K. W. H. monthly at	5	cents.
Next	300	" "	4.5	"
"	400	" "	4	"
"	600	" "	3.5	"
All excess of	1,500	" "	3	"

A discount of 5% will be allowed on the gross amount of all bills paid within 10 days from date of billing.

Sections 2 and 3 of said ordinance of March 25, 1915, are as follows:

Sec. 2. A discount of five per cent shall be allowed upon the gross amount of all bills for electricity furnished to the City of Galveston except upon such bills as may become due upon or grow out of the special contract rate for primary current and secondary current hereinafter provided for.

Sec. 3. By the letters K. W. H., wherever the same appear in this ordinance, is meant and intended to be meant the term kilo watt hour; and by the letters K. W., wherever the same appear in this ordinance, is meant and intended to mean, kilo watt.

Sec. 4. Provided further, that the rates to be charged the city of Galveston for electricity furnished to said city for primary current shall not exceed two and one-fourth cents per K. W. H., and for secondary current not to exceed three and fifteen one-hundredth-(3.15¢) per K. W. H., and the city of Galveston shall have the privilege of selecting each month either the rate or rates fixed in this section of this ordinance or of selecting the rate fixed for the standard wholesale rates as shown in Section 1 of this ordinance.

11 Sec. 5. Whenever the City of Galveston, acting through its proper officers, shall elect to receive electricity under the terms of the regular wholesale rate in determining the cost to said city of the electricity used by it the monthly demand of the corporation

providing such electricity to the city shall be determined by dividing the total K. W. H. used during the month by the number of hours that the street lamps are burned during the month.

2. By said ordinance it was provided that the maximum rates fixed thereby should become effective on and after April 1st, 1915, and remain in full force and effect until said ordinance was repealed or amended by the Board of Commissioners of the City of Galveston; and it was thereby also provided that:

"It shall be unlawful for either the Galveston Electric Company or the Brush Electric Company, or any person acting as an officer or agent for either of said corporations for and in behalf of either of said corporations to charge, ask, demand or receive any greater sum or charge for electricity than provided for according to the rates fixed in this ordinance, and either of said corporations failing to observe the schedule or maximum rates provided for in this ordinance shall be deemed to have forfeited the franchise or franchises granted to such corporation by the city of Galveston, and the board of commissioners shall thereupon declare the franchise or franchises of such offending corporation to be revoked and cancelled."

3. That plaintiff did not resist said ordinance, and did not accept the same, no acceptance being required by its provisions, but proceeded and continued to use and apply the rates thereby prescribed, testing by actual experiment and experience the sufficiency and adequacy of said rates until about the month of July, 1918, with the result that said rates were demonstrated to be wholly inadequate and insufficient to pay plaintiff's operating and maintenance expenses and any fair return upon the value of its property devoted to the public use.

4. That the actual value of plaintiff's properties, plant and equipment devoted to the public use was in 1915 in excess of $1,639,-
674.00, according to an actual survey and valuation then
12 made by careful, competent and skillful persons, and reviewed, verified, confirmed and approved by wholly disinterested and competent authorities, and the value thereof has constantly increased since then, so that it is now, due almost entirely to the increased price and value of the material in said plant and equipment and to additions thereto and replacements therein made by plaintiff and the increased price, cost and value of the material therein and the increased price and cost of labor used in constructing and placing the same, in excess of $2,049,592.00, and from 1913 to October, 1916, there were issued and outstanding its bonds secured by first mortgage on said properties, plant and equipment amounting in the aggregate to $1,500,000.00, bearing interest at the rate of 5% per annum amounting to the aggregate annual sum in interest of $75,000.00, the said mortgage requiring plaintiff to deposit with the Trustee named thereon on the first day of April of each calendar year, beginning with the first day of April, 1916, to be used as a sinking fund for the redemption of the bonds 1% of the principal amount of the bonds then issued and outstanding; and in October,

1916, the amount of said bonds issued and outstanding was reduced to the aggregate of $1,265,000.00, which amount of said bonds is still issued and outstanding, the amount of annual interest thereon being correspondingly reduced.

5. That for the year ending December 31st, 1915, operating partly under the rates as fixed by said ordinance and partly under the rates theretofore in effect, plaintiff's gross earnings amounted to $277,351.52, and its expenses, including cost of operation and maintenance, necessary additions to plant mainly of extensions of distribution lines, and small items of miscellaneous expense, amounted to $154,568.61, of which amount $20,207.35 was for such necessary additions to plant leaving for said period $122,782.91 applicable to the payment of interest (which for said year amounted to $75,000.00 on said bonds and $1,835.74 on miscellaneous indebtedness, total ($76,835.74), return on the value of the property, and to reserve for maintenance and replacements.

13 6. That for the year ending December 31st, 1916, operating the entire year under the rates as fixed by said ordinance, plaintiff's gross earnings amounted to $270,366.97, and its expenses, including cost of operation and maintenance, necessary additions to plant consisting mainly of extensions of distribution lines, and small items of miscellaneous expense, amounted to $164,738.18, of which amount $14,227.36 was for such necessary additions to plant, (the increase in said expense over the preceding year being almost entirely due to the increased cost of every sort of material used by plaintiff in its business caused by the European War or other causes wholly beyond plaintiff's control) leaving for said period $105,629.79 applicable to the payment of interest, (which for said year amounted to $66,187.50 on bonds and $2,010.88 on miscellaneous indebtedness, total $68,198.38), return on the value of the property, and to reserve for maintenance and replacements.

7. That during the year ending December 31st, 1917, operating under the rates fixed by said ordinance, and said agreement as to discounts aforesaid, plaintiff's gross earnings fell to $248,507.05, probably due directly and indirectly to some extent to prevailing conditions caused by the European War, wich resulted in the loss to the port and City of Galveston of the greater part of its shipping and shipping business, and its expenses including cost of operation and maintenance, necessary additions to plant consisting mainly of extensions of distribution lines, and small items of miscellaneous expense, increased to the sum of $166,027.22, of which amount $8,548.38 was for such necessary additions to plant, leaving for said period $82,479.83 applicable to the payment of inerest (which for said year amounted to $63,250.00 on bonds and $1,312.32 on miscellaneous indebtedness, total $64,562.32), return on the value of the property, and to reserve for maintenance and replacements.

IV.

1. That in July, 1918, in view of the constantly rising
14 and increasing cost of fuel and all sorts of material used by plaintiff in its business and the constantly rising and increasing cost of labor, all due to conditions caused by the European war as aforesaid, or at all events to conditions beyond this plaintiff's control, and facing a condition of practical bankruptcy, plaintiff appealed to the Board of Commissioners of the City of Galveston representing to said Board, as the facts were, that the rates named in said ordinance of March 25th, 1915 were wholly inadequate, and after a full and careful investigation said Board of Commissioners on or about the 18th day of July 1918, duly passed and adopted an ordinance finding and declaring that the charges or rates then in effect "fixed by the Galveston Electric Company and the Brush Electric Company (that is to say the charges named in said ordinance of March 25th, 1915) for electricity furnished to the consumers of each of the corporations were (are) not sufficient to compensate said corporations for services so rendered," and fixing and determining higher maximum rates to be charged by said corporations for electricity furnished their respective consumers, said rates so fixed and determined being as follows:

Lighting.

First	30	K. W. H.	monthly	at 12.7	cents.
Next	30	"	"	" 11	"
"	400	"	"	" 10	"
"	400	"	"	" 9	"
"	400	"	"	" 7	"
"	800	"	"	" 6	"
All excess		"	"	" 4	"

A discount of 5% will be allowed on gross amount of all bills paid within ten days from date of billing, except on minimum bills which are net.

A net surcharge of 1½ cents per Kilowatt hour shall be added to all light bills.

Minimum charge on lighting customers is to be $1.00 per Kilowatt connected transformer load. All residences with not to exceed 30 outlets shall be billed at 75 cents minimum.

15

Power.

First	30	K. W. H.	monthly	at 10	cents net.
Next	30	"	"	" 9	"
"	60	"	"	" 8	"
"	500	"	"	" 6	"
"	500	"	"	" 5	"
"	1,500	"	"	" 4	"
All excess		"	"	" 3.5	"

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

A net surcharge of 1¼ cents per Kilowatt hour shall be added to all power bills.

Minimum charge $1.00 per horsepower per month up to five (5) horsepower and 50 cents per horsepower for all additional. This includes heating devices, fans and all other apparatus classed as power.

Sign and Window Lighting.

One cent (1¢) connected watt per month for 2,000 horsepower yearly use. A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Wholesale Rate.

For customers having a half hour demand of 50 horsepower and over.

30 K. W. H. per K. W. demand monthly		10 cents.
Next 2,000	" " " " "	5 "
" 20,000	" " " " "	1.5 "
All K. W. Hour- in excess		1 "

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

A net surcharge of 1¼ cents per kilowatt hour shall be added to all wholesale rates.

Minimum charge $1.00 per K. W. of demand per month on yearly basis.

Battery Charging Off Peak.

First	200 K. W. H. monthly	at 5 cents.
Next	300 " "	" 4.5 "
"	400 " "	" 4 "
"	600 " "	" 3.5 "
All excess of	1,500 " "	" 3 "

A discount of 5% will be allowed on the gross amount of
16 all bills paid within ten days from date of billing.

A net surcharge of one cent per Kilowatt hour shall be added to all battery charging off peak.

Sections 2 to 6 of said ordinance of July 18, 1918 are as follows:

Section 2. A discount of 10% shall be allowed on gross amount of all bills for electricity furnished to the City of Galveston except upon such bills as may become due or grow out of the special contract rate for primary current and secondary current hereinafter provided for.

Section 3. By the letters K. W. H. wherever the same appear in this ordinance is meant and intended to be meant the term Kilo watt

hour and by the letters K. W. wherever the same appear in this ordinance is meant and intended to mean Kilo watt.

Section 4. Provided further that the rates to be charged the City of Galveston for electricity furnished to said City for primary current shall not exceed two and one-fourth cents per K. W. H. and for secondary current not to exceed three and fifteen one-hundredths (3.15¢) cents per K. W. H. and the City of Galveston shall have the privilege of selecting each month either the rate or rates fixed in this section of this ordinance or of selecting the rate fixed for the standard wholesale rates as shown in Section 1 of this ordinance. The city not to be charged with the surcharge on wholesale rates.

Section 5. A second discount of 5% shall be allowed the City of Galveston upon the amount of bills for electricity furnished to City of Galveston which bills are based upon measurements taken at the power plant of the Brush Electric Company, said discount being intended to cover the loss and wastage current in the course of distribution.

Section 6. Whenever the City of Galveston, acting through its proper officers, shall elect to receive electricity under the terms of the regular wholesale rate in determining the cost to said city of the electricity so used by it monthly demand of the corporation providing such electricity to the City shall be determined by dividing the total K. W. H. used during the month.

Said ordinance provided that the rates thereby fixed become effective July 18, 1918, and remain in effect until said ordinance be repealed or amended by the Board of Commissioners of the City of Galveston.

Said Ordinance also contained the same clause with reference to the forfeiture of its franchise that was contained in said ordinance of March 25th, 1915, and which is set out in Paragraph III 2 hereof, and provided that before said rates could be used by the respective grantees they were required to accept the said ordinance in writing, which this plaintiff did on the said 18th day of July, 1918.

Beginning on the 1st day of April, 1917, and continuing until July 18th, 1918, by agreement between plaintiff and said Board of Commissioners, though not embodied in any ordinance or writing, plaintiff had allowed discounts of 10% on all bills paid to it within ten days from the date of billing (except on minimum bills) instead of the discounts of 5% provided for by said ordinance of March 25th, 1915, and in enacting said ordinance of July 18, 1918, said Board of Commissioners allowed plaintiff to discontinue the allowance by it of said discounts of 10% and restored the discounts of 5%, as they were provided for in said ordinance of March 25th, 1915, the only other increase allowed to plaintiff by said ordinance of July 18, 1918, being net surcharges of 1½¢ per kilowatt hour added to all retail light bills, and 1¼¢ per kilowatt hour added to all retail power bills and to all wholesale bills, and 1¢ per kilowatt hour added to all bills for battery charging off peak, no surcharge, however, being allowed on any bills against said City of Galveston, nor for sign and window lighting.

2. The allowance of said discounts of 5% by said ordinance resulted in an increased gross revenue to plaintiff of approximately $10,000.00 per annum, and the allowance of said surcharges to a further increase in its gross revenue of approximately $30,-
18 000.00 per annum; but notwithstanding said increases the gross earnings of plaintiff continued to decrease and for the year ending December 31st, 1918, operating for the part of said year subsequent to July 18th, 1918, on which date the rates provided for in said ordinance of that date became effective, until the end of said year under the increased rates provided for by said ordinance plaintiff's gross earnings decreased to the sum of $238,-158.22, and due to the aforesaid constantly increasing cost of labor, material and also of fuel, its expenses including cost of operation and maintenance, necessary additions to plant consisting mainly of extensions of distribution lines, and small items of miscellaneous expense, amounted to $205,428.78, of which amount $4,610.44 was for such necessary additions to plant, leaving for said period only $32,729.44 applicable to the payment of interest (which for said year amounted to $63,250.00 on bonds and $1,342.90 on miscellaneous indebtedness, total $64,592.90), return on the value of the property, and to reserve for maintenance and replacements.

3. That for the first seven months of the year 1919, operating the entire seven months under the rates fixed by said ordinance of July 18th, 1918, plaintiff's gross earnings amounted to $163,217.47, and its expenses including cost of operation and maintenance, necessary additions to plant consisting mainly of extensions of distribution lines, and small items of miscellaneous expense, amounted to $123,487.47, of which amount $679.02 was for such necessary additions to plant, leaving for said seven months $39,729.00 applicable to the payment of interest (which for said seven months was $36,-895.84 on the bonds and $3,819.93 on miscellaneous indebtedness, total $40,715.77), return on the value of the property, and to reserve for maintenance and replacements.

V.

1. That notwithstanding the conditions aforesaid were well-known to the defendants and were fully and fairly stated to them by
19 plaintiff said Board of Commissioners of the City of Galveston on the 31st day of July, 1919, passed and adopted an ordinance decreasing the maximum rates to be charged by plaintiff and said Galveston Electric Company for electricity furnished to their respective consumers and customers that were fixed by said ordinance of July 18th, 1918, and fixing and determining lesser maximum rates to be charged by them respectively for electricity furnished to the City of Galveston or to the consumers of either of said corporations, which ordinance is as follows, to wit:

"An Ordinance Fixing the Maximum Rate to be Charged by the Galveston Electric Company and the Brush Electric Company for Electricity Furnished to the Private Consumers of Said Corporation, or Either of Them, and to the City of Galveston.

Whereas, the present charges fixed by the Galveston Electric Company and the Brush Electric Company for electricity furnished to the consumers of each of the corporations are excessive, and

Whereas, in granting a franchise to each of said corporations, the City of Galveston reserved the right to fix the maximum rate of charge for electricity furnished by each of the corporations to its customers:

Therefore, be it ordained by the Board of Commissioners of the City of Galveston, as follows, to wit:

Section 1. That in conformity with the rights and powers reserved by the City of Galveston in granting franchises to the Galveston Electric Company, of Galveston, Texas, and the Brush Electric Company, of Galveston, Texas, the following schedule of rates is fixed and determined as the maximum rate to be charged by either of the said Galveston Electric Company or the said Brush Electric Company for electricity furnished to the City of Galveston or to the consumers of either of said corporations:

Lighting.

First	30	K. W. H.	monthly	at 12.7	cents.
Next	30	"	"	" 11	"
"	400	"	"	" 10	"

20

Next	400	K. W. H.	monthly	at 9	cents.
"	400	"	"	" 7	"
"	800	"	"	" 6	"
All excess		"	"	" 4	"

A discount of 10% will be allowed on the gross amount of all bills paid within ten days from date of billing, except on minimum bills which are net.

Minimum charge on lighting customers is to be $1.00 per Kilowatt connected transformer load. All residences with not to exceed 30 outlets shall be billed at 75 cents minimum.

Power.

First	30	K. W. H.	monthly	at 10	cents net.
Next	30	"	"	" 9	"
"	60	"	"	" 8	"
"	500	"	"	" 6	"
"	500	"	"	" 5	"
"	1,500	"	"	" 4	"
All excess		"	"	" 3.5	"

A discount of 10% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Minimum charge of $1.00 per horsepower per month up to five (5) horsepower and 50 cents per horsepower for all additional. This includes heating devices, fans and all other apparatus classed as power.

Sign and Window Lighting.

One cent (1¢) connected watt per month for 2,000 hours yearly use. A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Wholesale Rate.

For customers having a half hour demand of 50 horsepower and over.

30 K. W. H. per K. W. demand monthly			10 cents.
Next 2,000	"	"	5 "
" 20,000	"	"	1.5 "
All K. W. Hour in excess			1 "

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Minimum charge $1.00 per K. W. of demand per month on yearly basis.

21 Battery Charging Off Peak.

First	200 K. W. H. monthly	at	5 cents.
Next	300 "	"	4.5 "
"	400 "	"	4 "
"	600 "	"	3.5 "
All excess of	1,500 "	"	3 "

A discount of 5% will be allowed on the gross amount of all bills paid within ten days from date of billing.

Section 2. A discount of 10% shall be allowed upon gross amount of all bills for electricity furnished to the City of Galveston, over and in addition to the cash payment discount allowed to all customers, except upon such bills as may become due upon or grow out of the special contract rate for primary current and secondary current hereinafter provided for. This special discount being intended to cover transmissions, transformations and investment losses borne by the city in purchasing its current measured at the companies' switchboard.

Section 3. By the letters K. W. H. wherever the same appears in this ordinance is meant and intended to be meant the term Kilo

watt hour and by the letters K. W. wherever the same appear in this ordinance is meant and intended to mean Kilo watt.

Section 4. Provided further that the rates to be charged the City of Galveston for electricity furnished to said City for primary current shall not exceed two and one-fourth cents per K. W. H. and for secondary current not to exceed three and fifteen one-hundredths (3.15¢) cents per K. W. H. and the City of Galveston shall have the privilege of selecting each month either the rate or rates of either of them fixed in this section of this ordinance or of selecting the rate fixed for the standard wholesale rates as shown in Section 1 of this ordinance, and in the event the rates or either of them mentioned in this section shall be selected the discounts provided for in Sections 1 and 2 shall still apply.

Section 5. Whenever the City of Galveston, acting through its proper officers, shall elect to receive electricity under the terms of the regular wholesale rate in determining the cost to said City of the electricity so used by it monthly demand of the corporation
22 providing such electricity to the City shall be determined by dividing the total K. W. H. used during the month by the number of hours that the street lamps are burned during the month.

Section 6. Every customer shall have the right of election between any rates herein provided which may be applicable to the class of service he is demanding so that he may secure the lowest rate per kilowatt hour to which he might be entitled under any of the rates herein provided for.

Section 7. The maximum rates fixed by this ordinance shall become effective on and after August 1, 1919, and remain in full force and effect until this ordinance be repealed or amended by the Board of Commissioners of the City of Galveston.

Section 8. It shall be unlawful for either the Galveston Electric Company or the Brush Electric Company, or any person acting as an officer or agent for either of said corporations for and in behalf of either of said corporations to charge, ask, demand or receive any greater sum or charge for electricity than provided for according to the rates fixed in this ordinance, and either of said corporations failing to observe the schedule of maximum rates provided for in this ordinance shall be deemed to have forfeited the franchise or franchises granted to such corporation by the City of Galveston and the Board of Commissioners shall thereupon declare the franchise or franchises of such offending corporation to be revoked and cancelled.

Section 9. Nothing in this ordinance shall be deemed to effect any franchise heretofore granted either of said corporations save and except in the matter of the prices and charges allowed herein to be fixed and maintained.

Section 10. This ordinance shall be in force and effect from and after the date of its passage."

That said ordinance eliminates entirely the surcharges allowed by the ordinance of July 18th, 1918, and increases the discounts required to be allowed by plaintiff for payment of bills within
23 ten days from date of billing from 5%, as fixed in said ordinance of July 18th, 1918, to 10%, except bills for sign and window lighting, wholesale bills and bills for battery charging off peak, discount for payment of which bills within ten days from date of billing is allowed to remain at 5%.

2. That the reduction in maximum rates allowed to be charged by plaintiff by said ordinance of July 31st, 1919, on the basis of plaintiff's business for the year preceding said date amounts to a loss of revenue to plaintiff of not less than $35,000.00 to $45,000.00 per annum, resulting from said increased discounts it is required to allow by said ordinance and from the elimination by said ordinance of the surcharges aforesaid that were allowed by said ordinance of July 18th, 1918.

3. That the gross earnings that would have been received by plaintiff from its business for the seven months ending July 31st, 1919, would have amounted at the rates fixed and determined by said ordinance of July 31st, 1919, to $139,884.16, as against $163,217.47 actually received by it for said period, and its expenses including cost of operation, etc., for said period of seven months being as before stated $123,478.47, of which amount $679.02 was for such necessary additions to plant, and there would have been left to plaintiff only $16,405.69, as against $39,729.00, applicable to the payment of interest (which for said seven months was $36,895.84 on the bonds and $3,819.93 on miscellaneous indebtedness, total $40,715.77), return on the value of the property, and to reserve for maintenance and replacements.

4. That on July 31st, 1919, conditions affecting plaintiff's cost of operation and maintenance were no better, but on the contrary were worse than on the 18th day of July, 1918, and prior thereto, and had constantly been growing worse for at least four years, as is illustrated by the following actual figures, to-wit: During the year 1915 a disastrous storm, flood and hurricane occurred at said City of
24 Galveston, and in the vicinity thereof, by which plaintiff's plant and properties in said City were greatly damaged, necessitating the employment and use of considerable additional material and labor in effecting necessary repairs, and for said year of 1915 the per cent of its expense for labor to its gross earnings was 19.1 and for 1916 it was 15.4, for 1917 it was 18.2, for 1918 it was 23.8, and for the first seven months of the year 1919 it was 26.2; and the cost of fuel per kilowatt hour sold was for the year 1915 0.95¢, for 1916 0.89¢, for 1917 0.92¢, for 1918 2.209¢, and for the first seven months of the year 1919 1.91¢; and the total cost of production per kilowatt hour sold for the year 1915 was 3.16¢, 1916 3.26¢, 1917 3.62¢, 1918 5.09¢ and for the first seven months of the year 1919 4.91¢, the only reduction shown being the small decrease in fuel cost during the first seven months of 1919.

5. That the price paid by the City of Galveston to plaintiff for electric current under the rates fixed by each of said ordinances for current to be furnished said City was during the period of four years and seven months hereinafter mentioned less than the cost paid by plaintiff for producing said current during said period and for the year 1918 less than the cost of the single item of fuel used in the production of such current; and this notwithstanding plaintiff's only obligation by said franchise ordinance of March 16, 1911, and its acceptance thereof, as to rates to be charged to the City of Galveston for current, was to furnish to said City of Galveston at any time during the period of ten years beginning on the date of the passage of said Ordinance two phase 60 cycle 2,200 volt primary alternating current at 2½¢ per kilowatt hour.

6. The price of material used by plaintiff will not decrease, and if it decreases at all it will not be to anything like its former price, and the price of labor will not decrease, but on the contrary every evidence and indication points to an increase in the price thereof, and the only probability for a decrease is in the price of fuel
25 and even that is problematical and uncertain.

VI.

1. That for the period of four and one-half years ending July 31st, 1919, the aggregate amount of plaintiff's earnings left after deducting from its gross earnings expenses as set out in preceding paragraphs III 5, III 6, III 7, IV 2 and IV 3, and the aggregate amount of interest owing by plaintiff for the same period as shown by said paragraphs was:

Earnings after deducting expenses		$383,350.97
Interest on bonds	$304,583.34	
Interest, Miscellaneous	19,321.77	
		314,905.11
Applicable to reserve for maintenance and replacements and dividends or return on the value of the property for four years and seven months		$68,445.86

Or, if it be held that plaintiff is not entitled to charge as an expense the amount expended for additions to plant during said period mentioned in said paragraphs, the aggregate amount expended therefor during said period of four years and seven months was only $48,272.55, which would bring the balance left plaintiff applicable to reserve for maintenance and replacements and dividends or return on the value of the property for said period to $116,718.41.

2. That after deducting from its gross earnings expenses mentioned in Paragraphs IV 2 and IV 3, there remained for the year ending December 31st, 1918, the sum of $32,729.44, being $31,863.46

less than the interest for said year which amounted to $64,592.92; and for the first seven months of the year 1919 there remained $39,729.00 being $986.77 less than the interest for said seven months, which amounted to $40,715.77.

3. That the net revenue of plaintiff for the periods above referred to including and excluding amounts expended by it during such periods for additions to plant and including interest on its indebtedness and the percentages which said net revenue bears to the value of its property calculated on both the 1915 value of $1,639,674.00 and the present value of $2,049,592.00 as set out in III 4 above, are as follows:

26 Year ending—	Net revenue, not deducting amount spent for additions.	Per cent of 1915 value.	Per cent of 1919 value.	Net revenue, deducting amount spent for additions.	Per cent of 1915 value.	Per cent of 1919 value.
Dec. 31, 1915	$142,990.26	8.7	7	$122,782.91	7.5	6
Dec. 31, 1916	119,857.15	7.3	5.9	105,629.79	6.4	5.1
Dec. 31, 1917	91,028.21	5.6	4.4	82,479.83	5.3	4.3
Dec. 31, 1918	37,339.88	2.3	1.8	32,729.44	2	1.6
7 months ending July 31, 1919	40,408.02	4.2	3.4	39,729.00	4.1	3.3

27 4. That plaintiff has never at any time during its existence paid or earned sufficient to pay any dividend or return upon the value of its property, except a small return in the year 1913.

VII.

1. That plaintiff's plant, properties and business are situated and carried on in the City of Galveston, Texas, immediately upon the coast of the Gulf of Mexico and practically at sea level, and are exposed to hazards to which similar properties elsewhere are not subject. From time to time said City of Galveston is visited by storms of considerable violence and intensity and to inundations of sea water caused thereby which result in damage to plaintiff's plant and properties, causing it greater or less damage in proportion to the character of the storms. Latterly said City has become subject to such storms of the greatest intensity. In the year 1900 it was visited by a hurricane which has become historic and of which the courts of the country have taken judicial notice. It was the general consensus of opinion in said community that said hurricane was a freak of nature of such character that it would never be repeated, but in 1909 Galveston was again struck, this time, however, only by the edge of another hurricane, and in 1915 was visited by a hurricane which exceeded in intensity and duration that of 1900, and every other storm occurring in said vicinity of which there is any record known to plaintiff, and that so far as it is given to human foresight to look into the future such occurrences may be expected from time to time hereafter.

2. The climate at Galveston injuriously affects electrical wiring, and is particularly destructive of insulation and injurious to all iron and steel work, especially that which is exposed.

3. Plaintiff's business is also exposed to the hazards of governmental regulation to which most other businesses are not subject.

That the customary rate of interest on well secured loans in Galveston, not exposed to the hazards aforesaid, is from six to
28 eight per cent and commercial businesses generally in said community, at least not more hazardous than plaintiff's business, are expected to pay a return on the investment of a much greater per cent, not less than ten per cent and probably as high as twenty per cent.

VIII.

That plaintiff should be allowed to charge rates which will yield a reasonable return upon the value of its property devoted to the public use and that any less return is unfair, unjust and unreasonable; that the public policy of the State of Texas respecting the rate of return which should be allowed per annum upon the value of public utility properties is shown by Article 1018 of the Revised Civil Statutes of Texas, 1911, which provides that the governing authorities of cities and towns of the State of Texas of over 2,000 popula-

tion incorporated under the General Laws, shall not fix rates or compensation to be charged by various public utilities prescribing any rate of compensation which will yield less than ten per cent per annum net on the actual cost of the properties, and by Article 1028 of the Revised Civil Statutes of Texas, 1911, which provides that courts of the State of Texas in fixing rates for various public utilities shall fix rates sufficient to yield not less than ten per cent per annum upon the investment.

IX.

1. That during said period of four and one-half years ending July 31st, 1919, and always since its incorporation the business of plaintiff has been managed in an efficient, skillful and economical manner.

2. That during said period it has practiced the strictest economies consistent with the preservation and upkeep of its properties, and owing to the constantly increasing price of material, labor and fuel and the want of a proper amount of earnings it has been compelled to defer and has deferred much work of maintenance that should have been done, and during said period has had net earnings
29 after paying interest of only $68,445.86 (or if the expenses during said period for additions to the property be not allowed as an item of expense, then $116,718.41), an insufficient amount in either case to take care of fair maintenance of its properties and reasonable reserve for maintenance and replacements, or depreciation, leaving less than nothing for a return to plaintiff on the value of its property devoted to the public use.

3. That of the amount of expenses mentioned in Paragraph VI 1 hereof deducted from plaintiff's gross earnings, only the sum of $72,486.23 thereof was expended and paid out for maintenance during said period of four years and seven months, a sum less than plaintiff should have been permitted to earn for maintenance and replacements for any one year of said period; and plaintiff avers that it should be permitted to earn for maintenance and replacements a reasonable per cent per annum on the value of its said properties.

X.

1. That plaintiff has no substantial source of revenue except the generation, manufacture, distribution and sale of electricity and electric current and if it should undertake to increase the maximum rates fixed therefor by said Ordinance of July 31st, 1919, in order to allow it a sufficient sum of money to pay expenses of operation and maintenance, and take care of depreciation or reserve for maintenance and replacements, pay interest and have a sufficient sum left for a fair return upon the value of its said properties, said defendants would undertake to impose the penalties provided in said Ordinance of July 31st, 1919, and hereinbefore set out in Paragraph VI hereof and by various other methods and means would undertake to prevent the plaintiff from increasing its rates and would seriously inter-

fere with and harass the plaintiff in the operation of its property and would subject it to suits and numerous suits and prosecutions and would undertake to forfeit its charter, and said Board of Commissioners would pass an ordinance declaring its franchise under
30 said ordinance of March 16th, 1911, forfeited, and undertaking to forfeit the same, and would by suits and prosecutions against plaintiff undertake to forfeit its said franchises and would seriously interfere with and harass the plaintiff in the operation of its property and materially injure, if not destroy, the credit of plaintiff and materially interfere with the performance of its duty to the public and its rendering of adequate service to the public of the City of Galveston and would materially interfere with it in the operation of its plant, all of which would cause it serious and irreparable injury and damage for which it would have no adequate remedy at law.

XI.

1. That plaintiff now desires to charge rates for electricity and electric current greater than the rates prescribed by and sought to be imposed upon it by said ordinance of July 31st, 1919, and as much greater as will be necessary in order for it to earn expenses of operation and maintenance to take care of depreciation or reserve for maintenance and replacements, pay interest and a fair return on the value of its said property; but plaintiff is unable so to do because of the matters and things averred and set out in the last preceding paragraph.

2. That plaintiff has approximately 4,500 customers in the City of Galveston to whom it furnishes current for light and power and that if it does not charges the rates prescribed by said unlawful and confiscatory ordinance of July 31st, 1919, and charges said customers rates greater than the rates prescribed thereby and as much greater as will be necessary for it to earn expenses of operation and maintenance to take care of depreciation or reserve for maintenance and replacements and pay a fair return on its property, many of said customers will file suits against plaintiff to recover the difference between the rates which the plaintiff would so charge and
31 the rates fixed by the ordinance of July 31st, 1919, and would contend in said suits that the rates so charged them by plaintiffs were unreasonable and unlawful and plaintiff would be vexed and harassed by a great multiplicity of suits by its said customers and plaintiff would thereby be caused to expend large sums of money in the defense of said suits and plaintiff would be put to the trouble, vexation, harassment and expense of defending the same and will be put thereto while the validity of said ordinance of July 31st, 1919 is being contested, unless the relief herein prayed for is granted. That plaintiff has not put into effect the rates fixed by said ordinance of July 31st, 1919, and therefore, unless prompt relief is granted it by a restaining order, it will be at once subjected to the hazard of a forfeiture of its franchise by the Board of Com-

missioners of the City of Galveston and to the hazard of said multiplicity of suits by its customers.

XII.

1. That said ordinance of July 18th, 1918, does not expressly repeal the ordinance of March 25th, 1915, and said ordinance of July 31st, 1919, does not expressly repeal either said ordinance of March 25th, 1915, nor that of July 18th, 1918.

2. That although plaintiff accepted said ordinance of July 18th, 1918, it did so only because it could not otherwise avail itself of the slight increase in rates thereby provided, and with the hope of improved conditions which however has not been realized, and plaintiff's acceptance thereof was to that extent under duress and therefore, as well as because of the repudiation by the defendants of said ordinance and of plaintiff's acceptance thereof by the passage by said Board of Commissioners of the City of Galveston of said ordinance of July 31st, 1919, plaintiff is justified in seeking to enjoin the enforcement of said ordinance of July 18th, 1918, as well as those of March 25th, 1915, and July 31st, 1919, so that plaintiff may not be forced to use and apply the insufficient, inadequate rates prescribed by either of said ordinances of July 18th, 1919, or March
32 25th, 1915, in event said ordinance of July 31st, 1919, be held unreasonable, unlawful and unenforceable.

XIII.

1. That said ordinance of July 31st, 1919, and said ordinance of July 18th, 1918, and said ordinance of March 25th, 1915, and each of them, is contrary to the Constitution of the United States and void in so far as it fixes the maximum rates which plaintiff is entitled to charge and interferes with and prohibits it from increasing its rates to such a point as will enable it to earn its operating expenses and a fair return on the value of its property and provide for interest, depreciation or a fair reserve for maintenance and replacements, and the enforcement thereof will deprive plaintiff of its property without due process of law in violation of the Constitution and laws of this State and of the United States, and particularly in violation of that portion of Section 1 of the Fourteenth Amendment to the Constitution of the United States, which provides that "no State shall make or enforce any law which shall abridge the privileges or immunities of the citizens of the United States, nor shall any State deprive any person of life, liberty or property without due process of law; nor deny to any person within its jurisdiction the equal protection of the law;" and also particularly in violation of that portion of the Fifth Amendment to the Constitution of the United States which provides that "no person shall be deprived of life, liberty or property without due process of law, nor shall private property be taken for public use without just compensation."

2. That each of said ordinances in so far as it undertakes to provide as a penalty for the violation thereof the forfeiture of plaintiff's franchises by action of the Board of Commissioners of the City of Galveston without notice and without a hearing is void and unenforceable and said penalty is unlawfully excessive and is in violation of the Constitution and laws of the State of Texas and of the United States and particularly in violation of those
33 provisions of the Constitution of the United States hereinbefore quoted and amounts to a taking of plaintiff's property without just compensation and without due process of law.

3. That each and every one of said ordinances, in so far as it undertakes and attempts to fix maximum rates to be charged by plaintiff for electric current for power purposes is void, unlawful and unenforceable because the City of Galveston is incorporated by a Special Act of the Legislature of said State and is without charter power to fix maximum rates to be charged by plaintiff for electricity or electric current for use for any purpose, and the ordinance of March 16th, 1911, granting the franchise which plaintiff now has and under which it now operates, reserves only the right to fix maximum rates for electric current for lighting purposes.

XIV.

Plaintiff has no plain, adequate or complete remedy at law and unless this court of equity takes jurisdiction hereof and grants plaintiff an injunction as hereinafter prayed, plaintiff will suffer irreparable injury; and unless said ordinances and the enforcement thereof be enjoined as prayed, (1) plaintiff must submit thereto, permitting its property to be taken and confiscated without possibility of or opportunity for recovery, or (2) introduce new rates in the face of said ordinances and particularly said ordinance of July 31st, 1919, at the peril of disastrous forfeiture or attempted forfeiture of its charter and franchise, and under circumstances which will render it impractical and impossible to collect its charges and accounts without great loss and inconvenience, and the multiplicity of suits and contentions with plaintiff's customers, patrons and subscribers, which will result, will produce great confusion and uncertainty in plaintiff's business and lessen and damage the value of its property and increase the cost of serving the public.

XV.

That plaintiff has not put in effect nor charged, nor col-
34 lected, from any of its patrons, customers or subscribers the confiscatory rates undertaken to be fixed and prescribed by said ordinance of July 31st, 1919; and if the preliminary injunction prayed for by plaintiff be not granted either (1) plaintiff must charge rates in excess of the rates so attempted to be fixed by said ordinance and in so doing will face the peril of having its franchise rights forfeited, the collection of plaintiff's charges will be difficult

and uncertain and will provoke much litigation between plaintiff and its patrons, customers and subscribers, with the result that the satisfactory and settled relations existing between plaintiff and at least ninety percent of its said patrons, customers and subscribers will be disrupted and plaintiff's business reduced to a state of confusion and uncertainty and the value of its property lessened and the cost of operation increased, or (2) plaintiff must forego the charging of reasonable rates or any rates in excess of the rates undertaken to be fixed in said ordinance pending the final hearing and determination of this cause, and plaintiff will be compelled during such time either to abandon the operation of its business, plant and properties, or to accept the said confiscatory rates and operate at a disastrous loss and without any earnings to pay interest or dividends or returns of any kind whatever upon its property used in the public service, thereby sustaining losses that will amount to not less than $3,500.00 per month, which it will be practically impossible for plaintiff to recover from the defendants herein or from plaintiff's patrons, customers and subscribers; whereas if said preliminary injunction is granted as prayed the court may and will grant the same upon such terms as the court may deem necessary for the proper protection of the defendants in this cause and plaintiff's patrons, customers and subscribers.

XVI.

In consideration whereof and for as much as plaintiff is without any adequate remedy at common law for the wrongs and injuries of which it herein complains save in this court of equity, and that it will suffer irreparable injury unless the defendants are restrained and enjoined as herein prayed, plaintiff prays:—

First. That your Honors grant a temporary restraining order against the defendants to prevent them from enforcing or attempting to enforce each and every one of said ordinances and particularly and in any event said ordinance of July 31st, 1919, and from interfering with plaintiff in any way in putting into force and effect and charging such rates as are necessary to enable it to pay costs of operation and maintenance, interest and a fair and reasonable return upon the value of its properties and take care of depreciation and from forfeiting or attempting to forfeit any and all franchises which plaintiff has until the application for temporary injunction herein can be heard.

Second. That your Honors grant a temporary restraining order restraining and preventing the filing and prosecution of suits by customers, patrons or subscribers of plaintiff, seeking to enforce the said rates prescribed in said ordinances and particularly and in any event in said ordinance of July 31st, 1919, and from interfering with or preventing plaintiff in any way from putting into force and effect and charging such rates as are necessary to enable it to pay

costs of operation and maintenance, interest and a fair and reasonable return upon the value of its properties and take care of depreciation until the application for a temporary injunction can be heard.

Third. That after due notice your Honors grant a temporary injunction to restrain the defendants, and each of them, and all other officers, individuals, persons and corporations and his, their, or its attorneys, agents, or employees, from claiming or instituting or causing to be instituted suit or suits against plaintiff for the recovery of any damages, over-charges or penalties because of the putting into effect by plaintiff and its charging such rates as are necessary to enable it to pay cost of operation and maintenance, interest and a fair and reasonable return upon the value of its properties and take care of its depreciation.

Fourth. That after due notice your Honors grant a temporary injunction in the same terms as prayed for in paragraphs First and Second of this prayer and restraining and enjoining said defendants and each of them from doing and committing the acts thereby sought to be prevented.

Fifth. That upon final hearing the said injunction be perpetuated.

Sixth. That said ordinances and each of them be adjudged unconstitutional, void, unenforceable and not binding upon plaintiff and that the court determine whether the rates charged by plaintiff are then in effect are lawful, reasonable and adequate or not, and if not then what rates are necessary for plaintiff to charge in order to enable it to pay its operating expenses, interest, depreciation or fair reserve for maintenance and replacements and a fair return on the value of its properties; and that the court enter its order and decree perpetually enjoining the defendants and each of them from enforcing or attempting to enforce the said ordinance of March 25th, 1915, July 18th, 1918 and July 31st, 1919, and each of them, and from interfering with plaintiff in fixing and establishing the rates so found by the court to be reasonably necessary for the purposes aforesaid and for costs, and for all such other and further relief, both general and special, as may be just and equitable.

And may it please your Honors to grant unto plaintiff the Writ of Subpœna of the United States of America issuing out of and under the seal of this Honorable Court, directed to said City of Galveston, and H. O. Sappington, as Mayor-President of the City of Galveston; J. C. Purcell, as Commissioner of Finance and Revenue of the City of Galveston; John H. Gernand, Commissioner of Streets and Public Property of the City of Galveston; George E. Robinson, Water Works and Sewerage Commissioner of the City of Galveston; and A. P. Norman, Police and Fire Commissioner of the City of Galveston; commanding them and each of them on a date certain therein to be named and under a certain penalty to be and appear before this Honorable Court then and there to answer all and singular the premises (but not under oath or af-

rmation, answers under oath or affirmation being hereby expressly aived), and to stand to, perform or abide by such order, direction r decree as may be made against them in the premises.

J. W. TERRY,
E. D. CAVIN,
BALLINGER MILLS,
Solicitors for Brush Electric Company.

CHARLES A. FRUEAUFF,
Of Counsel.

TATE OF TEXAS,
County of Galveston:

Before me, the undersigned authority, on this day personally appeared W. R. Phipps, who being by me duly sworn on oath deposes nd says, that he is Agent and General Manager of the Brush Electric Company, the Complainant in the above entitled Bill; that he as read said Bill and knows the contents thereof and that the matrs and things therein stated as facts are true, except where stated n information and belief and as to said matters he verily believes hem to be true.

W. R. PHIPPS.

Subscribed and sworn to by said W. R. Phipps, before me, this 9th day of August, 1919.

[SEAL.] W. D. BAGGETT,
Notary Public in and for Galveston County, Texas.

(Indorsements:) Equity No. 38. In the United States District Court Southern District of Texas. At Galveston. Brush Electric Company vs. City of Galveston, et al. Bill of Complaint. Filed August 21, 1919. L. C. Masterson, Clerk, by G. Predecki, Deputy. J. W. Terry, E. D. Cavin, Ballinger Mills, Solicitors for Plaintiff. Charles A. Fruehauff, of Counsel.

38 *Order Setting Down Cause and for Temporary Restraining Order.*

Filed August 21, 1919.

Equity. No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

The Bill of Complaint in the above cause having been presented o me in Chambers at Austin, Texas, upon this the 20th day of August, 1919, and having been duly considered by me, and it ap-

pearing that Hon. J. C. Hutcheson, District Judge of the Southern District of Texas is absent from said District and from the Fifth Circuit, and that no other of the District Judges in any District of the State of Texas is available at present to hear the application for a temporary restraining order, and that great and irreparable injury will be suffered by the plaintiff in said bill unless said temporary restraining order is promptly granted or a hearing on the application therefor is granted, and I having heretofore tendered to the President of the United States my resignation as Circuit Judge, but such resignation having not yet been accepted, and it being made to appear to me that said plaintiff is entitled to a prompt hearing on its said application for a temporary restraining order or that in the event said hearing cannot be granted to the issuance of such temporary restraining order until its application for temporary injunction can be heard, because of the absence of said District Judges from the State;

It is therefore ordered that said Bill of Complaint be filed forthwith by the Clerk of the District Court for the Southern District of Texas, at its Galveston Division, and that the application for a temporary restraining order as contained in said Bill be set for hearing before me in the United States District Court Room at Dallas, Texas for ten o'clock A. M. on Monday, August 25th, 1919: In the event my resignation as such Circuit Judge shall have been ac-
39 cepted prior to that time, it is hereby ordered, as there will be no other Judge available to hear said application, and as great and irreparable injury will ensue to plaintiff unless it is offered a hearing thereon, that the Clerk of the District Court for the Southern District of Texas is hereby directed on the 25th day of August, 1919, at 10 o'clock A. M. to issue to the defendants in said bill a temporary restraining order, restraining them and each of them, from taking any action forfeiting or seeking to forfeit any of the franchises held by plaintiff, and from attempting to enforce and from enforcing the rates specified in plaintiff's Bill and particularly the rates specified in the ordinance passed on July 31st, 1919 set out in said Bill, and from instituting any suit or suits against plaintiff based upon said ordinances or any of them, and from doing the other matters sought to be restrained by said bill, and from preventing plaintiff from charging adequate rates; said temporary restraining order shall continue in force until the fourth day of September, 1919, at ten o'clock A. M. when the application of Plaintiff for a temporary injunction or a continuance of said temporary restraining order, as the case may be is set for hearing before Hon. James C. Wilson, District Judge, in the United States District Court room at Dallas, Texas, for said fourth day of September, 1919 at ten o'clock A. M. It is further ordered that the Clerk of the United States District Court for the Southern District of Texas is hereby directed to forthwith serve or cause to be served said defendants with a copy of this order and notice to appear at the times and places hereinabove specified.

R. L. BATTS,
Circuit Judge.

(Indorsements:) Equity No. 38. Brush Electric Company vs. City of Galveston, et al. Order setting down cause, and for temporary restraining order. Filed August 21, 1919. L. C. Masterson, Clerk. By G. Predecki, Deputy.

40 *Answer of Defendant City of Galveston et al.*

Filed June 7, 1920.

In the District Court of the United States for the Southern District of Texas, at Galveston.

Ch. No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Come now the defendants in the above entitled and numbered cause, the City of Galveston, a municipal corporation, and H. O. Sappington, as Mayor-President of the City of Galveston, and J. C. Purcell, as Commissioner of Finance and Revenue of the City of Galveston, and John H. Gernand, as Commissioner of Streets and Public Property of the City of Galveston, and Geo. E. Robinson, as Water-works and Sewer Commissioner of the City of Galveston and A. P. Norman, as Police and Fire Commissioner of the City of Galveston, now and at all times save and reserve to themselves all benefits and advantages of exceptions to the many errors, uncertainties, imperfections and insufficiencies in complainant's bill of complaint contained and for answer to the rule to show cause herein why an injunction should not issue against them as prayed for in plaintiff's bill of complaint, say:

I.

These defendants admit all of the first, second and third subdivisions of paragraph one of the plaintiff's bill of complaint, except the allegation that this suit arises under the Constitution and Laws of the United States, which they deny.

II.

These defendants admit the first, second, third, fourth and fifth sub-divisions of the second paragraph of plaintiff's bill of complaint,
41 except the allegation in the fifth sub-division thereof wherein it is alleged that the plaintiff has ever since added to, extended, improved and maintained the same in as good condition and as high a state of efficiency that its earnings permitted, which allegation these defendants deny.

These defendants admit the sixth sub-division of the second paragraph of plaintiff's bill of complaint.

III.

These defendants admit the first and second sub-divisions of the third paragraph of plaintiff's bill of complaint, and they deny upon information and belief, the allegations contained in the third sub-division of the third paragraph of plaintiff's bill of complaint, and they deny that portion of the fourth sub-division of paragraph three of plaintiff's bill of complaint wherein it is alleged that the actual value of plaintiff's property, plant and equipment devoted to the public use in 1915 was in excess of One million, six hundred thirty-nine thousand, six hundred seventy-four Dollars ($1,639,674) and they deny that at the time of filing the plaintiff's bill of complaint, the value of the plaintiff's property, plant and equipment was in excess of Two million, forty-nine thousand five hundred ninety-two Dollars ($2,049,592), and in that connection allege that the value of the plaintiff's property devoted to the public use in the city of Galveston never exceeded and does not now exceed the sum of Six hundred thousand Dollars ($600,000); these defendants have no knowledge or information as to the amount of the first mortgage bonds outstanding on the plaintiff's property, plant and equipment, or as to the rate of interest thereon, and therefore put the plaintiff to proof thereof.

These defendants have no knowledge or information sufficient to form a belief as to the allegations contained in the fifth, sixth and seventh sub-divisions of the third paragraph of plaintiff's bill of complaint and say that the alleged facts stated therein are
42 exclusively in the possession of the plaintiff and put the plaintiff upon proof thereof.

IV.

These defendants deny upon information and *believe* the allegations contained in the first sub-division of the fourth paragraph of plaintiff's bill of complaint, except the allegation that on about the 18th day of July, 1918, the board of commissioners of the city of Galveston enacted the ordinance therein set forth.

These defendants have no knowledge or information as to the allegations contained in the third sub-division of the fourth paragraph of plaintiff's bill of complaint and demand that plaintiff be put upon proof thereof, as the alleged facts stated therein are solely within the knowledge of the plaintiff.

These defendants have no knowledge or information as to the allegations contained in the third sub-division of the fourth paragraph of plaintiff's bill of complaint, the alleged facts being stated therein being solely within plaintiff's knowledge and therefore puts the plaintiff upon proof thereof.

V.

These defendants deny the allegations contained in the first sub-division of the fifth paragraph of plaintiff's bill of complaint, except the allegations relating to the enactment by the board of commissioners of the ordinance dated the 31st day of July, 1919, as set forth in said sub-division.

These defendants deny the allegations contained in the second, third, fourth, fifth and sixth sub-divisions of the fifth paragraph of plaintiff's bill of complaint.

VI.

These defendants deny upon information and belief the allegations contained in the sixth paragraph or sub-division of the plaintiff's bill of complaint, and in that connection these defendants allege, that the plaintiff has at all times since it owned the
43 property and plant set forth in its bill of complaint, earned in excess of eight per cent (8%) on the fair value of its property devoted to the public service in the City of Galveston, and during which time the plaintiff has received as a fair return on the value of said property much more than the value thereof.

VII.

These defendants admit the first sub-division of the seventh paragraph of the plaintiff's bill of complaint, and they deny upon information and belief the second and third sub-divisions of the seventh paragraph of plaintiff's bill of complaint.

VIII.

These defendants deny upon information and belief all of paragraph eight of plaintiff's bill of complaint, except the allegation that plaintiff should be allowed to charge rates which will yield a reasonable return upon the value of its property devoted to the public use.

IX.

These defendants deny upon information and belief the allegations contained in the ninth paragraph of plaintiff's bill of complaint.

X.

These defendants deny upon information and belief the allegations contained in the tenth paragraph of plaintiff's bill of complaint.

XI.

These defendants admit the allegations contained in the first sub-division of the eleventh paragraph of plaintiff's bill of complaint.

These defendants deny the allegations contained in the second sub-division of the eleventh paragraph of plaintiff's bill of complaint, except the allegation that plaintiff has not put into effect the rates fixed by said ordinance of July 31, 1919.

44

XII.

These defendants deny the allegations contained in the twelfth paragraph of plaintiff's bill of complaint.

XIII.

These defendants deny the allegation contained in the thirteenth paragraph of plaintiff's bill of complaint.

XIV.

These defendants deny the allegations contained in the fourteenth paragraph of plaintiff's bill of complaint.

XV.

These defendants admit that portion of the fifteenth paragraph of plaintiff's bill of complaint wherein it is alleged that the plaintiff has not put into effect or charged or collected, from any of its patrons, customers or subscribers, the rates fixed and prescribed by the ordinance of July 31, 1919, and these defendants deny upon information and belief all other allegations thereof.

XVI.

These defendants deny that the plaintiff is entitled to the relief prayed for in the sixteenth paragraph of its bill of complaint.

XVII.

These defendants in further answer to the plaintiff's bill of complaint allege, that the ordinance of July 31, 1919, fixing the maximum rates to be charged for electric current in the City of Galveston were fair and reasonable, and were not confiscatory, and do not deprive plaintiff of its property without due process of law and that such rates, if the same had been put into effect by the plaintiff, would yield to it a fair return upon the value of its property devoted to the public service in the City of Galveston; that the plaintiff failed and refused to put said rates into effect and is therefore estopped from denying that the same are not reasonable and just and that if put into effect would yield a fair return upon the
45 value of its property devoted to the public service in said city.

XIX.

These defendants deny that the complainant has any right to further answer to the bill of complaint herein, and denying that the plaintiff is entitled to an injunction for any other relief whatever, submits for the reasons hereinbefore cited and set forth that the complainant is not entitled to any relief against these respondents, all of which matters and things these defendants are ready and willing to further maintain and prove as this Honorable Court may direct, and therefore prays to be hence dismissed, with their reasonable costs and charges in this behalf against them wrongfully sustained.

FRANK S. ANDERSON,
Solicitor for Defendants.

(Indorsements:) Ch. No. 38. In the District Court of the United States for the Southern District of Texas, at Galveston. Brush Electric Company, vs. City of Galveston et al. Answer of Defendant City of Galveston, et al. Filed June 7, 1920. L. C. Masterson, Clerk, by G. Predecki, Deputy.

46 *Order Amending Original Bill.*

Filed June 15, 1920.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Upon this the 15th day of June, 1920, this cause came on to be heard upon motion of the plaintiff, before Honorable J. C. Hutcheson, Jr., District Judge, to amend its Original Bill herein, as follows:

"First: Strike out Subdivision 4 of Paragraph III, at Page 11 of said Original Bill, and insert in lieu thereof the following:

"4. That the actual present value of plaintiff's properties, plant and equipment devoted to the public use is to-wit: $1,052,913.00, according to actual survey and valuation made by careful, competent and skilful persons, and from 1913 to October, 1916, there were issued and outstanding its bonds secured by first mortgage on said properties, plant and equipment amounting in the aggregate to $1,500,000.00, bearing interest at the rate of 5% per annum amounting to the aggregate annual sum in interest of $75,000.00, the said mortgage requiring plaintiff to deposit with the Trustee named therein on the first day of April of each calendar year, beginning with the first day of April, 1916, to be used as a sinking

fund for the redemption of the bonds 1% of the principal amount of the bonds then issued and outstanding; and in October, 1916, the amount of said bonds issued and outstanding was reduced to the aggregate of $1,265,000.00, which amount of said bonds is still issued and outstanding, the amount of annual interest thereon being correspondingly reduced.

"Second: In Subdivision 7 of Paragraph III in the second line of said Subdivision, at Page 13 of said Original Bill, strike out the word "said" at the end of said second line and insert in lieu thereof the word "the"; and strike out the word "aforesaid" in the third line of said Subdivision 7 at Page 13 and insert in lieu
47 thereof the words "hereinafter alleged in Subdivision 1 (pp. 17 and 18) of Paragraph IV of this Bill."

"Third: Strike out Subdivision 3 of Paragraph VI, pp. 28 and 29 of said Original Bill and insert in lieu thereof the following:

"3. That the net revenue of plaintiff for the periods above referred to, both including and excluding amounts expended by it during such periods for additions to plant, and including interest on its indebtedness and the percentages which said net revenue bears to the present value of its property, to-wit: $1,052,913.00, are as follows, to-wit:

Year ending—	Net revenue, not deducting amount spent for additions.	Per cent of value.	Net revenue, deducting amount spent for additions.	Per cent of value.
Dec 31, 1915.....	$142,990.26	13.58	$122,782.91	11.66
Dec. 31, 1916.....	119,857.15	11.38	105,629.79	10.03
Dec. 31, 1917.....	91,028.21	8.64	82,479.83 [$2,479.03]*	7.83
Dec. 31, 1918.....	37,339.88	3.54	32,729.44	3.18
7 months ending July 31, 1919.....	40,408.02	6.57	39,729.00	6.46

[*Written with ink in copy.]

And the Court having considered said motion and being of the opinion that the plaintiff has a right to amend its Bill as set out above, does therefore order and decree that the plaintiff be permitted to amend its Bill as set out.

J. C. HUTCHESON, JR.,
Judge.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. In U. S. District Court, Southern District of Texas, Galveston Division. Order Amending Original Bill. Filed 15th day of June, 1920. L. C. Masterson, Clerk. By J. L. Sexton, Deputy.

48 *Amendment to Original Bill.*

Filed June 15, 1920.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To the Honorable Judges of said Court:

Comes now the plaintiff in the above entitled and numbered cause, Brush Electric Company, and, with leave of the Court first had and obtained, amends its Original Bill of Complaint herein, as follows:

First: Strike out Subdivision 4 of Paragraph III, at Page 11 of said Original Bill, and insert in lieu thereof the following:

4. That the actual present value of plaintiff's properties, plant and equipment devoted to the public use is to-wit: $1,052,913.00, according to actual survey and valuation made by careful, competent and skilful persons, and from 1913 to October, 1916, there were issued and outstanding its bonds secured by first mortgage on said properties, plant and equipment amounting in the aggregate to $1,500,000.00, bearing interest at the rate of 5% per annum amounting to the aggregate annual sum in interest of $75,000.00, the said mortgage requiring plaintiff to deposit with the Trustee named therein on the first day of April of each calendar year, beginning with the first day of April, 1916, to be used as a sinking fund for the redemption of the bonds 1% of the principal amount of the bonds then issued and outstanding; and in October, 1916, the amount of said bonds issued and outstanding was reduced to the ag-
49 gregate of $1,265,000.00, which amount of said bonds is still issued and outstanding, the amount of annual interest thereon being correspondingly reduced.

Second. In Subdivision 7 of Paragraph III in the second line of said Subdivision, at Page 13 of said Original Bill, strike out the word "said" at the end of said second line and insert in lieu thereof the word "the"; and strike out the word "aforesaid" in the third line of said Subdivision 7 at Page 13 and insert in lieu thereof the words "hereinafter alleged in Subdivision 1 (pp. 17 and 18) of Paragraph IV of this Bill."

Third. Strike out Subdivision 3 of Paragraph VI, pp. 28 and 29 of said Original Bill and insert in lieu thereof the following:

3. That the net revenue of plaintiff for the periods above referred to, both including and excluding amounts expended by it during such periods for additions to plant, and including interest on its indebtedness and the percentages which said net revenue bears to the present value of its property, to-wit: $1,052,913.00, are as follows, to-wit:

Year ending—	Net revenue, not deducting amount spent for additions.	Per cent of value.	Net revenue, deducting amount spent for additions.	Per cent of value.
Dec 31, 1915.....	$142,990.26	13.58	$122,782.91	11.66
Dec. 31, 1916.....	119,857.15	11.38	105,629.79	10.03
Dec. 31, 1917.....	91,028.21	8.64	82,479.83	7.83
Dec. 31, 1918.....	37,339.88	3.54	32,729.44	3.18
7 months ending July 31, 1919.....	40,408.02	6.57	39,729.00	6.46

J. W. TERRY,
E. D. CAVIN,
BALLINGER MILLS,
Solicitors for Brush Electric Company.

CHAS. A. FRUEAUFF,
Of Counsel.

50 STATE OF TEXAS,
County of Galveston:

Before me, the undersigned authority, on this day personally appeared W. R. Phipps, who being by me duly sworn on oath deposes and says, that he is Agent and General Manager of the Brush Electric Company, plaintiff in the Original Bill in the above entitled and numbered cause; that he has read the foregoing amendment to said Bill and knows the contents thereof and that the matters and things therein stated as facts are true, except where stated on information and belief and as to said matters he verily believes them to be true.

W. R. PHIPPS.

Subscribed and sworn to by said W. R. Phipps, before me this 12th day of January, 1920.

W. D. BAGGETT,
[SEAL.] *Notary Public in and for Galveston County, Texas.*

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. In U. S. District Court, Southern District of Texas, Galveston Division. Amendment to Original Bill. Filed 15th day of June, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

51 *Order Granting Leave to File Amended Answer.*

Entered June 15, 1920.

United States District Court, Southern District of Texas, at Galveston, June Term, June 15, 1920.

From the Minutes of said Court, Volume 10, Page 200.

Hon. J. C. Hutcheson, Jr., Judge Presiding.

Equity. No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Ordered, that leave be, and the same is hereby granted to file amended answer.

52 *Defendants' Amended Answer.*

Filed June 15, 1920.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

And now come the defendants in the above entitled and numbered cause and with leave of the court first had and obtained, answers the amendments to the original bill of complaint herein filed by the plaintiff on the — day of June, 1920, as follows:

I.

These defendants deny that the actual present value of plaintiff's property, plant and equipment, devoted to the public use, is $1,052,913.00, and in that connection say that the fair value of plaintiff's said property, plant and equipment devoted to the public use does not exceed the sum of $600,000.00; these defendants have no knowledge or information as to the amount of first mortgage

bonds issued and outstanding on the property of the plaintiff, and have no knowledge or information as to whether the amount so issued and outstanding from 1913 to October, 1916, amounting in the aggregate to $1,500,000.00 bearing interest at the rate of 5 per cent per annum, and have no knowledge or information as to the aggregate annual sum of interest on any such bond, and have no knowledge or information as to whether the said mortgage requires plaintiff to deposit with the trustee named therein on the 1st day of April of each calendar year beginning from the 1st day of April, 1916, to be used as a sinking fund for the redemption of the bonds 1 per cent of the principal amount of the bonds then issued and outstanding, and have no knowledge or information as to the amount of said bonds issued and oustanding in October, 1916, or as to
53 the amount of said bonds still issued and outstanding.

II.

These defendants have no knowledge or information as to the allegations contained in the third paragraph or sub-division of said amended bill and therefore demand proof thereof, but they specifically deny that the present value of the plaintiff's property is $1,052,913.00.

III.

Wherefore, these defendants deny that the plaintiff has any right to further answer to the amended bill of complaint herein and demands judgment as demanded in the answer to the original bill of complaint.

FRANK S. ANDERSON,
Solicitor for Defendants.

(Indorsements:) No. 38, In Equity. In the District Court of the United States for the Southern District of Texas, Galveston Division. Brush Electric Company vs. City of Galveston, et al. Defendants' Amended Answer. Filed June 15, 1920. L. C. Masterson, Clerk, by G. Predecki, Deputy.

54 *Order Appointing Lewis R. Bryan, Master.*

Filed June 28, 1920.

In the District Court of the United States for the Southern District of Texas.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

It appearing to the Court in the above styled and numbered cause that the proper development and disposition of the case requires the appointment of a master to hear and take evidence and make his report in said cause as to the facts established therein and their bearing upon the reasonableness or unreasonableness of the ordinances attacked therein;

It is Ordered that Lewis R. Bryan, a member of the bar of Harris County, Texas, be and he is hereby appointed master in said cause, with the power and authority to hear and take testimony in said cause in accordance with the rules governing such proceedings, and in accordance with this order, and on the hearing and taking of such testimony, to make and cause to be transcribed a true and complete record thereof, or should such testimony be presented in the form of documents or reports agreed upon by the parties, to certify to the same as evidence, without the necessity of causing their transcription, and generally to take the testimony and make the report thereon fully and completely in accordance with the rules and this order, and such other orders as may be by the Court made, and generally with the authority to do any and all other acts and direct all other inquiries and proceedings in the matter before him which he may deem necessary and proper to the justice and merits thereof, and to the rights of the parties. And upon the conclusion of such hearing to transmit the record thereof together with his report and recommendations thereon to this Court for its further action in the premises, as by the Rules by this order or any other order hereafter entered may be provided.

55 J. C. HUTCHESON, JR.,
Judge.

(Indorsements:) No. 38. In Equity. Brush Electric Company vs. City of Galveston et al. Order appointing Lewis R. Bryan, Master. Filed June 28, 1920. L. C. Masterson, Clerk. By G. Predecki, Deputy.

56 *Stipulation of Parties and Order Thereon.*

Filed August 25, 1919.

In the District Court of the United States for the Southern Distri
of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Stipulation of Parties.

The Hon. J. C. Hutcheson, District Judge of the Southern Distri
of Texas, being absent from his District, and the Hon. Frank
Anderson, City Attorney of the City of Galveston, Texas, bein
absent from the City and State, and neither being expected to retu
until early in September, 1919, it is agreed and stipulated by a
between the parties plaintiff and defendant in the foregoing styl
and numbered proceeding in equity;

First. That the hearings upon plaintiff's Application for a te
porary restraining order heretofore on August 20th, 1919 provid
for and ordered by Hon. R. L. Batts in chambers, to be held r
spectively before himself, the Hon. R. L. Batts, at 10 o'clock A. M
on the 25th day of August, 1919 in the United States District Co
room at Dallas, Texas, and before the Hon. J. C. Wilson, Unit
States District Judge, at 10 o'clock A. M. on the 4th day of S
tember, A. D. 1919 in the United States District Court room
Dallas, Texas, are both hereby waived, and by consent of part
may not and need not be had or held.

Second. That whether or not the resignation of the Hon. R.
Batts, as United — Circuit Judge, shall have been accepted by t
President of the United States before 10 o'clock A. M. on the 2
of August, A. D. 1919, the Clerk of the United States District Co
for the Southern District of Texas shall issue to the defendants t
Temporary Restraining Order in all things as directed, instruc
and provided for in the said Order made in chambers on Aug
20th, 1919 in said cause by the Hon. R. L. Batts, Unit
57 States Circuit Judge, and that said Temporary Restrainin
Order shall in all things remain in full force and effect un
plaintiff's Application for Temporary Injunction as prayed for in
Bill in Equity in said cause may be heard and passed upon by a
in the United States District Court for the Southern District
Texas at some exact date and place to be named and ordered by t

United States District Judge for the Southern District of Texas upon his return to his said District, either upon agreement of the parties hereto or arbitrarily by said court in case said parties fail to so agree.

Third. And it is further stipulated and agreed by and between the parties plaintiff and defendant in said suit in equity that the Ordinance of the City of Galveston of date July 31st, 1919, complained of in plaintiff's said Bill, shall be and remain wholly unenforced and unenforcible until plaintiff's said Application for a Temporary Injunction shall have been passed upon by the United States District Court of the Southern District of Texas, or by some other competent United States Court, to which said proceeding may be hereafter lawfully transferred.

Witness our hands in quadruple this 22nd day of August, A. D. 1919.

H. O. SAPPINGTON,
Mayor of the City of Galveston.
TERRY, CAVIN & MILLS,
Solicitors for Brush Electric Company.

Attest:
JNO. D. KELLEY,
[SEAL.] *City Secretary.*

GEO. P. PRENDERGAST,
Assistant City Attorney of the City of Galveston.

Austin, Texas, August 23rd, 1919.

The foregoing stipulation of the parties is approved by me and the clerk of the United States District Court for the Southern District of Texas is hereby directed to issue the restraining order in accordance with the terms of said stipulation.

R. L. BATTS,
Circuit Judge.

58 (Indorsements:) No. 38, In Equity. Brush Electric Company vs. City of Galveston, et al. Stipulation of Parties, and Order thereon. Filed August 25, 1919. L. C. Masterson, Clerk. By G. Predecki, Deputy.

59 *Temporary Restraining Order.*

Issued August 25, 1919.

Equity. No. 38.

In the District Court of the United States for the Southern Dist of Texas, Holding Sessions at Galveston.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

The President of the United States of America to City of Galvest H. O. Sappington, as Mayor-President of the City of Galvest J. C. Purcell, as Commissioner of Finance and Revenue of City of Galveston, John H. Gernand, as Commissioner of Stre and Public Property of the City of Galveston, George E. Rob son, as Water Works and Sewerage Commissioner of the City Galveston, and A. P. Norman, as Police and Fire Commissioner the City of Galveston, Greeting:

Whereas, an order was made by the Honorable R. L. Batts, Uni States Circuit Judge, on the 20th day of August, 1919, and filed this Court on the 21st day of August, 1919, in the above entit and numbered cause, wherein it is recited:

"Equity. No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

The Bill of Complaint in the above cause having been presented me in Chambers at Austin, Texas, upon this the 20th day of Augu 1919, and having been duly considered by me, and it appear that Hon. J. C. Hutcheson, District Judge of the Southern Distr of Texas is absent from said District and from the Fifth Circu and that no other of the said District Judges in any District of t State of Texas is available at present to hear the appplication for temporary restraining order, and that great and irreparable inju will be suffered by the plaintiff in said bill unless said tempora restraining order is promptly granted or a hearing on the appli tion therefor is granted, and I having heretofore tendered to t President of the United States my resignation as Circuit Judge, b such resignation having not yet been accepted, and it being made appear to me that said plaintiff is entitled to a prompt hearing its said application for a temporary restraining order, or that in t

nt said hearing cannot be granted to the issuance of such tempo-
y restraining order until its application for temporary injunc-
tion can be heard, because of the absence of said District
Judges from the State;

It is therefore ordered that said Bill of Complaint be filed
thwith by the Clerk of the District Court for the Southern Dis-
t of Texas, at its Galveston Division, and that the application for
emporary restraining order as contained in said Bill be set for
aring before me in the United States District Court Room at
llas, Texas, for ten o'clock A. M. on Monday, August 25th, 1919:
the event my resignation as such Circuit Judge shall have been
epted prior to that time, it is hereby ordered, as there will be no
er Judge available to hear said application, and as great and ir-
arable injury will ensue to plaintiff unless it is afforded a hearing
reon, that the Clerk of the District Court for the Southern Dis-
t of Texas is hereby directed on the 25th day of August, 1919, at
o'clock A. M. to issue to the defendant in said bill a temporary
raining order, restraining them and each of them, from taking
y action forfeiting or seeking to forfeit any of the franchises held
plaintiff, and from attempting to enforce and from enforcing the
es specified in plaintiff's Bill and particularly the rates specified
the ordinance passed on July 31st, 1919 set out in said Bill, and
m instituting any suit or suits against plaintiff based upon said
inances or any of them, and from doing the other matters sought
be restrained by said bill, and from preventing plaintiff from
rging adequate rates; said temporary restraining order shall con-
ue in force until the fourth day of September, 1919, at ten o'clock
M. when the application of Plaintiff for a temporary injunction
a continuance of said temporary restraining order, as the case
y be is set for hearing before Hon. James C. Wilson, District
dge, in the United States District Court room at Dallas, Texas, for
d fourth day of September, 1919, at ten o'clock A. M. It is
ther ordered that the Clerk of the United States District Court
the Southern District of Texas is hereby directed to forthwith
ve, or cause to be served, said defendants with a copy of this order
d notice to appear at the times and places hereinabove specified.

R. L. BATTS,
Circuit Judge.

(Indorsements:) Equity No. 38. Brush Electric Company vs.
y of Galveston et al. Order setting down cause, and for tempo-
y restraining. Filed August 21, 1919. L. C. Masterson, Clerk,
G. Predecki, Deputy."

And, whereas, a stipulation of the parties, in writing, with an
er of the Court, signed by the Honorable R. L. Batts, Circuit
dge, endorsed thereon, dated the 22nd day of August, 1919, and
d in said cause, on August 25, 1919, as follows:

"In the District Court of the United States for the Southern Distr
of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Stipulation of Parties.

The Hon. J. C. Hutcheson, District Judge of the Southern D
trict of Texas, being absent from his District, and the Hon. Fra
S. Anderson, City Attorney of the City of Galveston, Texas, be
absent from the City and State, and neither being expected to retu
until early in September, 1919, it is agreed and stipulated by a
between the parties plaintiff and defendant in the foregoing styl
and numbered proceeding in equity:

First. That the hearings upon plaintiff's Application f
61 a temporary restraining order heretofore on August 20
1919, provided for and ordered by Hon. R. L. Batts in cha
bers, to be held respectively before himself, the Hon. R. L. Ba
at 10 o'clock A. M. on the 25th day of August, 1919, in the Unit
States District Court room at Dallas, Texas, and before the Hon.
C. Wilson, United States District Judge, at 10 o'clock A. M. on t
4th day of September, A. D. 1919 in the United States Distr
Court room at Dallas, Texas, are both hereby waived, and by cons
of parties may not and need not be had or held.

Second. That whether or not the resignation of the Hon. R.
Batts, as United — Circuit Judge, shall have been accepted by t
President of the United States before 10 o'clock A. M. on the 2
day of August, A. D. 1919, the Clerk of the United States Distr
Court for the Southern District of Texas shall issue to the defendan
the Temporary Restraining Order in all things as directed, instruc
and provided for in the said Order made in chambers on Augu
20th, 1919, in said cause by the Hon. R. L. Batts United States C
cuit Judge, and that said temporary restraining order shall in a
things remain in full force and effect until plaintiff's Applicati
for Temporary Injunction as prayed for in its Bill in Equity in sa
cause may be heard and passed upon by and in the United Stat
District Court for the Southern District of Texas at some exact da
and place to be named and ordered by the United States Distr
Judge for the Southern District of Texas upon his return to his s
District, either upon agreement of the parties hereto or arbitrar
by said court in case said parties fail to so agree.

Third. And it is further stipulated and agreed by and between the parties plaintiff and defendant in said suit in equity that the Ordinance of the City of Galveston of date July 31st, 1919, complained of in plaintiff's said Bill, shall be and remain wholly unenforced and unenforcible until plaintiff's said Application for a Temporary Injunction shall have been passed upon by the United States District Court of the Southern District of Texas, or by some other competent United States Court, to which said proceeding may be hereafter lawfully transferred.

Witness our hands in quadruple this 22nd day of August, A. D. 1919.

[SEAL.]

H. O. SAPPINGTON,
Mayor of the City of Galveston.
TERRY, CAVIN & MILLS,
Solicitors for Brush Electric Company.
GEO. P. PRENDERGAST,
Assistant City Attorney of the City of Galveston.

Attest:
JNO. D. KELLEY,
City Secretary.

Austin, Texas, August 23rd, 1919.

The foregoing stipulation of the parties is approved by me and the clerk of the United States District Court for the Southern District of Texas is hereby directed to issue the restraining order in accordance with the terms of said stipulation.

R. L. BATTS,
Circuit Judge.

(Indorsements:) No. 38. In Equity. Brush Electric Company vs. City of Galveston et al. Stipulation of Parties, and Order thereon. Filed August 25, 1919. L. C. Masterson, Clerk, by G. Predecki, Deputy."

Now, therefore, in accordance with the foregoing order of the Court, dated August 20, 1919, and filed herein August 21, 1919, and the stipulation of the parties, with the order of the Court thereon, as above recited, filed herein August 25, 1919, you, the said City of Galveston, H. O. Sappington, as Mayor-President of the City of Galveston, J. C. Purcell, as Commissioner of Finance and Revenue of the City of Galveston, John H. Gernand, as Commissioner of Streets and Public Property of the City of Galveston, George E. Robinson, as Water Works and Sewerage Commissioner of the City of Galveston, and A. P. Norman, as Police and Fire Commissioner of the City of Galveston, and each of you, are hereby restrained from taking any action, forfeiting or seeking to forfeit any of the franchises held by plaintiff, and from attempting to enforce, and from enforcing, the rates specified in plaintiff's Bill and particularly the rates specified in the ordinance passed on July

31st, 1919, set out in said Bill, and from instituting any suit or suits against plaintiff based upon said ordinances or any of them, and from doing the other matters sought to be restrained by said Bill and from preventing plaintiff from charging adequate rates, until plaintiff's application for Temporary Injunction, as prayed for in its Bill in Equity in said cause may be heard and passed upon by and in the United States District Court for the Southern District of Texas, at some exact date and place to be named and ordered by the United States District Judge for the Southern District of Texas upon his return to his said district, either upon agreement of the parties hereto or arbitrarily by said Court in case said parties fail to so agree, and that the ordinance of the City of Galveston of date July 31st, 1919, complained of in plaintiff's said Bill shall be and remain wholly unenforced and unenforcible until plaintiff's said application for a Temporary Injunction shall have been passed upon by the United States District Court for the Southern District of Texas, or by some other competent United States Court, to which said proceeding may be hereafter lawfully transferred, or until the further
63 order of the Court herein.

Herein fail not.

Witness, the Honorable J. C. Hutcheson, Jr., Judge of the District Court of the United States for the Southern District of Texas, and the seal of the said District Court, at the City of Galveston, this 25th day of August, 1919.

[SEAL.]

L. C. MASTERSON,
Clerk of the United States District Court, Southern District of Texas.
By G. PREDECKI, *Deputy.*

(*Marshal's Return.*)

Received this writ at Galveston, Texas, on August 25, 1919, and I executed the same at Galveston, Texas, on August 25, 1919, by serving each of the within named defendants, to-wit: City of Galveston, thru H. O. Sappington, Mayor-President; and H. O. Sappington, Mayor-President; and J. C. Purcell, Commissioner of Finance and Revenue; John H. Gernand, Commissioner of Streets and Public Property; George E. Robinson, Water Works and Sewerage Commissioner, and A. P. Norman, Police and Fire Commissioner, all of the City of Galveston, in person, with a certified copy of this Temporary Restraining Order.

J. A. HERRING,
U. S. Marshal, S. D. T.,
By FRANK P. TIERNAN,
Deputy.

(Indorsements:) Equity No. 38. Brush Electric Company vs. City of Galveston, et al. (Original) Temporary Restraining Order. Issued August 25, 1919. L. C. Masterson, Clerk. By G. Predecki, Deputy. Returned and filed 30th day of August, 1919. L. C. Masterson, Clerk. By G. Predecki, Deputy.

Report of Special Master.

Filed Oct. 12, 1920.

In the United States District Court for the Southern District of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON.

In the above styled and numbered cause the Court entered the following order appointing a Master in Chancery:

"It appearing to the Court in the above styled and numbered cause that the proper development and disposition of the case requires the appointment of a master to hear and take evidence and make his report in said cause as to the facts established therein and their bearing upon the reasonableness or unreasonableness of the ordinance attacked therein;

"It is Ordered that Lewis R. Bryan, a member of the bar of Harris County, Texas, be and he is hereby appointed master in said cause, with the power and authority to hear and take testimony in said cause in accordance with the rules governing such proceedings, and in accordance with this order, and on the hearing and taking of such testimony, to make and cause to be transcribed a true and complete record thereof, or should such testimony be presented in the form of documents or reports agreed upon by the parties, to certify to the same as evidence, without the necessity of causing their transcription, and generally to take the testimony and make the report thereon fully and completely in accordance with the rules and this order, and such other orders as may be by the Court made, and generally with the authority to do any and all other acts and direct all other inquiries and proceedings in the matter before him which he may deem necessary and proper to the justice and merits thereof, and to the rights of the parties. And upon the conclusion of such hearing to transmit the record thereof together with his report and recommendations thereon to this Court for its further action in the premises as by the Rules by this order or by other order hereafter entered may be provided."

The issues made by the pleadings were as follows:

Plaintiff claim sunder the pleadings the invalidity of certain ordinances passed by the Board of Commissioners of the City of Galveston fixing maximum rates chargeable for electric current sold by

plaintiff as a public utility to its customers in Galveston, on t ground that the rates prescribed by such ordinances yield and w yield insufficient revenue to permit plaintiff to earn a fair retu and proper depreciation reserve on the fair value of its property d voted to public use in the City of Galveston, and hence that t rates prescribed by said ordinances are confiscatory and in violati of the Constitution of the United States. These ordinances we passed on March 25th, 1915, July 18th, 1918 and July 31st, 191 respectively. In view of the fact that the 1918 ordinance provide higher rates than the 1915 ordinance and that the 1919 ordinan provided lower rates than the 1918 ordinance, it is deemed nece sary by the Master to refer only to the 1918 and 1919 ordinance believing as he does that the 1915 ordinance is not a material iss in this case.

It is unnecessary to refer to defendant's pleadings further than say that they in effect constituted a general denial of plaintiff averments.

The hearing of evidence was commenced at the City of Galvesto on August 26th, 1920, and was continued from day to day wit intermissions until September 30th, 1920. The Master will he state that both sides to the controversy are to be commended on t evident fairness and disposition displayed to bring out the facts each side saw them and the manner in which they have agree among themselves upon facts which has resulted in shortening t hearing and enabling the Master, to the best of his abilit
66 to make the findings which follows:

At the beginning there was filed an agreement by the parties co ering what was called the "bare bones" valuation of the propert reading as follows:

Memorandum.

"Galveston, Texas, August 25th, 1920.

We, the undersigned engineers for the Brush Electric Compan and the City of Galveston, respectively, in the matter of the valua tion of the properties of the Brush Electric Company, of Galveston Texas, agree to the following valuations of said properties:

Cost of bare physical property, at present prices, undepreciated, as of January 1st, 1920.....	$784,689.0
Cost of bare physical property, at averaged pre-war price, undepreciated, as of January 1st, 1920.....	576,898.0

It is understood that the above figures cover only the "bar bones" of the properties, and do not include the following intang ble, and other values:

Contractor's Expense and Profit.
Omissions and Contigencies.
Engineering and Supervision.
Organization and Legal Expense.

Taxes during Construction.
Working Capital.
Interest during Construction.
Materials and Supplies.
Going value.

ANDREW J. FOSTER,
For the Brush Electric Company.
HENRY E. ELROD,
For the City of Galveston."

Witnesses:
R. E. BLANTON.

It was agreed by the parties that upon pre-war prices there had been a general average advance in cost of the various factors making up the property of 110%. It will be observed that the effect
67 of these figures is to add to the pre-war valuation of $576,-898.00, 36.4%, which makes the undepreciated value of $784,689.00 on January 1st, 1920, which will hereafter be referred to as present value; or in other words the pre-war value as above stated is 73.6% of the present value.

Depreciated Value.

The Master believed under the decisions of the Supreme Court of the United States that it was proper to take the present depreciated value of the property as the basis of ascertaining the present value of the property.

Des Moines Gas Co. vs. Des Moines, 238 U. S., 153, 59 L. Ed. 1244.

Lincoln Gas & E. L. Co. vs. Lincoln, 250 U. S., 256, 63 L. Ed. 968.

Knoxville vs. Knoxville Water Co., 212 U. S., 1, 53 L. Ed. 371.

Willcox vs. Consolidated Gas Co., 212 U. S., 19, 53 L. Ed. 382.

The question of what depreciation is to be made and how to arrive at the value of the property as depreciated was presented in a bewildering array of figures by the two very able experts, Mr. F. C. Hamilton, appearing for the plaintiff, and Mr. Henry E. Elrod, appearing for the defendant. These gentlemen discussed "methods" and "theories," the plaintiff contending for the "inspection method" and the defendant for the "straight line method" or "age and life method." Mr. Hamilton was of the opinion that plants of this character are usually 75% to 85% efficient as operating plants; Mr. Elrod thought that plants of this character are usually 60% to 80% efficient as operating plants. It will be observed that this would indicate a usual percentage of depreciation accrued of from 15% to 40% in the plants and the Master, doing the best he could under the circumstances, about divided the difference and adopted 72% of the condition or a depreciation of 28% from the cost of bare

physical property, less real estate $20,000.00, and less office and utility equipment $15,757.00; that is to say 72% of $742,803.00 makes the sum of $534,818.00, which is the depreciated value of the depreciable items of the property as of this date.

68 Method Used in Arriving at the Total Valuation of the Property.

Depreciated value of depreciable items	$534,818.00
Contractor's expense and profit 10%	53,481.00
Engineering and Supervision 5%	26,740.00
Omissions and contingencies 2%	10,696.00
Organization and legal expense	11,404.00
Working capital	35,695.00
Interest during construction	11,444.00
Materials and supplies	33,770.00
Going value	46,195.00
Real estate	20,000.00
Office and utility equipment	15,757.00
Total	$800,000.00

My finding is that the foregoing is the fair present value of the property. Having come to the conclusion that the going value was about $50,000.00 and that the total value was about $800,000.00, I fixed the going value at such sum as would make, with the other items of value, the even sum of $800,000.00.

Annual Rate of Return and Rate of Depreciation.

The Master recommends 8% for the annual return and 4½% for the annual rate of depreciation on the $800,000.00 valuation of the property. This 4½% is based upon the finding that the average life of the items entering into the property is approximately twenty-two years from the date of their installation."

Revenue Produced under the Ordinance of 1919.

The Master finds that for the year commencing August 1st, 1919, and ending July 31st, 1920, the plaintiff, company, had gross earnings from operations of $333,079.65. It appears that the total net sales for that year and forfeited discounts amounted to the sum of $339,079.65 and the company deducted from this amount the sum of $6,000.00 as being an average annual loss for bad debts.

69 It appears from the books of the Company that for the year ending July 31st, 1920, there was actually deducted from the gross earnings from operations on their books for bad debts, $4,401.45; but it appeared in evidence that for the calendar year 1917 the Company charged off for bad debts $15,909.24 and for the calendar year 1918, $11,801.51, so that the Master concluded that the average of $6,000.00 was probably correct. The intention

of the Company is fixing the arbitrary sum of $6,000.00 for 1919 and 1920 was to distribute equitably the variations in the losses for the several years. The operating expenses for the twelve months ending July 31st, 1920 amounted to $228,621.73. In making up this item for operating expenses appeared the following items, to which the defendant objected, viz:

Gratuitous work on customers' premises supplies and expenses	$1,525.42
Gratuitous work on customers' premises, labor	4,213.99
Travelling expenses	2,320.37
New business expense	14,024.27
Storm expense	2,200.21
Valuation expense	200.00
Gratis wage	100.15
Condemned meters	750.56
Condemned transformers	75.03
Fire expense	6,379.99
	$31,789.99

the foregoing items making a total of $31,789.99, which were included in the operating expenses for the twelve months ending July 31st, 1920, $228,621.73, as above stated.

The City also objected to the items for maintenance which amounted to $47,534.29, for the year ending July 31st, 1920, the grounds of objection made by the City being chiefly that maintenance was excessive for the year ending July 31st, 1920, by comparison with the three previous fiscal years, which were as
70 follows:

1917	$15,199.80
1918	13,439.05
1919	20,631.13

These objections of the defendant were overruled by the Master.

The gross revenue under the rates proposed by the Ordinance of 1919, which Ordinance is attacked by the plaintiff, would have amounted during said period from August 1st, 1919 to July 31st, 1920, if they had been put into operation, to the sum of $277,267.39, from which deducting operating expenses of $228,621.73, leaves a net amount of $48,645.66, which would have been made from operations under said Ordinance of 1919. The property having been valued by the Master at $800,000.00, it necessarily follows that the 8% per annum for revenue and the 4½% for reserve, making a total of 12½% on $800,000.00, required a revenue of $100,000.00. As above stated the gross earnings from operations for the year commencing August 1st, 1919 and ending July 31st, 1920, amounts to $333,079.65, which arose from the application by the Company of the rates fixed by the Ordinance of 1918, and deducting from those gross earnings the sum of $228,621.73 for opera-

tions and maintenance, leaves net earnings from operation of $104,457.92. It was not deemed by the Master necessary to make a critical examination into the several items of operating expense objected to by the defendant and into the item for maintenance because if there be a readjustment as claimed by the defendant city should be done, deducting storm expense of $2,200.00 and after prorating over a period of 5 years the excess charge for maintenance the maintenance for the fiscal year ending July 31, 1920, would be a charge of $2,200.00 instead of $47,534.29, and also prorating the fire expense over a period of 5 years making $1,275.00, this would reduce operating and maintenance expense by the sum of $29,009.00 and all of the other items which were objected to are believed by the Master to have been without doubt correctly charged. It would appear, therefore, that by deducting this $29,009.00 from the operating expense of $228,621.00 would leave $199,612.00. Deducting this $199,612.00 from $277,267.00, the revenues which would have been derived for the fiscal year ending July 31st, 1920 under the Ordinance of 1919, would leave $77,655.00, and in either event would be appreciably less than $100,000.00 revenue which was believed to be the fair and legitimate rate that should be made on this property. 71

The Master understood that if he should find the 1919 Ordinance was confiscatory in its effect, and therefore unreasonable, that he was not called upon to ascertain what rate would be a proper one to be charged under the 1918 Ordinance.

Conclusions of Law.

It appears from the foregoing that it necessarily follows as a legal conclusion that the Ordinance of 1919 was confiscatory in its character, in that it did not allow a sufficient or reasonable rate of return on the property of the plaintiff and that the Ordinance is unreasonable and should be enjoined. As to the Ordinance of 1918 it is equally apparent that the rates put into force by the Company under that Ordinance exceed the amount necessary to give them a fair and reasonable return by at least the sum of $4,457.92.

Final.

The Master accompanies with this report which is filed with the Clerk of this Court a true and complete record of the testimony taken in this case consisting of the oral evidence as given by the witnesses on the stand and certain exhibits including reports of the respective expert enginers, Mr. F. C. Hamilton for the plaintiff, and Mr. Henry E. Elrod for the defendant, and certain other evidence accompanying the report which are certified the same as evidence without having the same transcribed in the testimony taken by the Reporter.

LEWIS R. BRYAN,
Special Master in Chancery.

(Indorsements:) In Equity. No. 38. Brush Electric Company vs. City of Galveston. Report of Special Master. Filed 12th
72 day of Oct., 1920. L. C. Masterson, Clerk, by G. Predecki, Deputy.

73 *Defendant's Exceptions to the Master's Report.*

Filed October 29, 1920.

In the District Court of the United States for the Southern District of Texas.

In Equity.

No. —.

Brush Electric Co.

vs.

City of Galveston et al.

Exceptions Taken by Defendants to the Report of Lewis Bryan, Esq., Special Master.

Filed Herein on Oct. 12, A. D. 1920.

First Exception.

For that the Master used as a base the "bare bones" value of plaintiff's property, at the abnormal cost of reproducing such property at prices as of Jan. 1, 1920, viz., $784,689, whereas, if proper to proceed in this manner, he should have, under the evidence, taken no higher value than the undepreciated cost of such property, as shown by the books or the sum of $576,898, being the agreed undepreciated "bare bones" value at averaged pre-war prices.

(In these exceptions in referring to pre-war costs or values we mean the period prior to January 1, 1917, and not the period prior to the beginning of the European war in 1914.)

Second Exceptions.

For that the Master, in determining the amount of accrued depreciation, deducted only 28% from the value of the depreciable property new, whereas, under the evidence, he should have deducted 46%, this latter per cent being the amount in per cent of accrued depreciation found to exist in the property by the witness Elrod. In this connection defendants urge that the present value of the property is fully 46% less than the value of such property new, and upon whatever base value of the property new that may be
74 taken the accrued depreciation thereof should be fixed at 46% of the value so taken as a base. Exception is, therefore,

made to that part of the Master's report wherein he found the "depreciated value of depreciable items" to be $534,818.00, whereas he should have found, if valued in this manner, the "depreciated value of depreciable items" to be not more than $475,686.00 (being the record cost, less 46% depreciation. See Elrod's Report, Part I page 132) or $427,112 (being the reproduction value new at averaged pre-war prices, less depreciation. See Exhibit No. —).

Third Exception.

For that the Master found "contractors' expense and profit 10%" amounting to $53,481.00, being 10% of the depreciated value of the depreciable items, as found by the Master, whereas, if valued in this manner, he should have found not more than 10% of the depreciated record cost, or 10% of the depreciated pre-war value, that is to say he should have allowed for this item not more than $28,728.00.

Fourth Exception.

For that the Master found for "engineering and supervision 5%," viz., $26,740.00, being 5% of the base value of $534,818.00, whereas he should, if valued in this manner, have found not more than $15,449.00.

Fifth Exception.

For that the Master found for "omissions and contingencies 2%," viz., $10,696.00, being 2% of the depreciated value of the depreciable items, as found by the Master, whereas he should have allowed nothing for this item.

Sixth Exception.

For that the Master found for "materials and supplies" the sum of $33,770.00 in addition to $35,695.00 for "working capital," whereas he should, after allowing for working capital, have allowed nothing for "materials and supplies." In this connection defendants urge, amongst others, as an objection to the allowance of the item of "materials and supplies" that such allowance should
75 not be made, as it is for the purpose of furnishing capital to carry on a mercantile supply store. Defendants urge, under the evidence, that not more than $33,980.00 should have been found as necessary for "working capital, materials and supplies."

Seventh Exception.

For that the Master found for "going value" the sum of $46,195.00, whereas he should have allowed no additional amount for this item, having allowed full value for all overheads having value to it as a going concern, and because the Company was, as is shown by the evidence, fully compensated in rates heretofore charged for the cost of developing the business.

Eighth Exception.

For that the Master, in his report, found the value of plaintiff's property for rate-making purposes to be $800,000.00, whereas he should have found the fair value of the property, used and useful, for rate-making purposes does not exceed $510,000.00 and if valued in detail should have had values placed on the items severally no more than follows, viz:

Undepreciated Value of "Bare Bones," as per Agreement (pre American War)		$576,898
Less Real Estate		20,000
Total Depreciable Value of "Bare Bones," less Real Estate		$556,898
Less Accrued Depreciation (Elrod)		292,441
Total Depreciated Value of "Bares Bones"		$264,457
Add:		
Real Estate	$20,000	
Engineering (depreciated)	15,449	
Contractors' Profit	28,728	
Organization	11,404	
Interest during Const.	11,444	
Working Cash	33,980	
		121,005
Total Property Value For Rate Base		$385,462
But the total Record Cost of the properties, including all overheads and working cash, depreciated, is		510,000

Ninth Exception.

For that the Master has found that plaintiff company is entitled to a 4½% depreciation annuity on the total valuation of
76 $800,000.00 placed on the property, whereas he should have found that plaintiff is entitled to no more than a 4% depreciation annuity on the fair value, for rate-making purposes, of the depreciable property. Defendants urge that plaintiff should not be allowed a depreciation annuity on real estate, working capital, material and supplies, office utility equipment, going concern value and the other overheads entering into and forming a part of the value of plaintiff's property.

Tenth Exception.

For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was

entitled to charge to operating expenses for "gratuitous work on customers' premises, supplies and expenses" the sum of $1,525.42 and for "gratuitous work on customers' premises, labor" the sum of $4,213.99, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense in determining the amount necessary for operating expenses.

Eleventh Exception.

For that the Master has found, in determining the amount of revenue, produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "traveling expenses," the sum of $2,320.37, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense in determining the amount necessary for future operating expenses.

Twelfth Exception.

For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "new business expense," the sum of $14,024.27, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense in determining the amount necessary for operating expenses. In this connection defendants show that such ex-
77 penditures were to cover net loses sustained in conducting a mercantile electrical store.

Thirteenth Exception.

For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "storm expense," the sum of $2,200.21, and for "fire expense," the sum of $6,379.99 whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense, but should have authorized the storm expense over a period equal to the recurrence of storms, or ten to fifteen years, and the fire expense over a period of not less than ten years.

Fourteenth Exception.

For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "valuation expense," the sum of $200.00, whereas he should have found that plaintiff was not entitled to anything for this as an operating expense, as this charge will not recur.

Fifteenth Exception.

For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "condemned meters," the sum of $750.56 and for "condemned transformers," the sum of $75.03, whereas he should have found that plaintiff was not entitled to anything for either as an operating expense, but should charge the same to depreciation reserve.

Sixteenth Exception.

For that the Master has found, in determining the amount of operating expenses and the revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to maintenance $47,534.29 for the year ending July 31, 1920, whereas he should have found such amount to be excessive by $24,750.00, that is to say, he should not have allowed for maintenance more than $22,784.00, which is the average normal amount necessary to expend at prevailing prices for maintenance.

Respectfully submitted,

FRANK S. ANDERSON,
City Atty.
McDONALD & WAYMAN,
Attorneys for Defendant.

(Indorsements:) No. 38, In Equity. In the District Court of the United States, for the Southern District of Texas. Brush Electric Co. vs. City of Galveston, et al. Defendants's Exceptions to the Master's Report. Filed October 29, 1920. L. C. Masterson, Clerk. By G. Predecki, Deputy.

79 *Plaintiff's Exceptions to Report of Special Master.*

Filed October 30, 1920.

In the District Court of the United States for the Southern Dist
of Texas, Galveston Division.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Exceptions taken by the plaintiff, Brush Electric Company, to
report made and filed herein October 12th, 1920, by Hon. L.
Bryan, Special Master, to whom this cause was heretofore d
referred by an order of this court.

For said plaintiff it is urged, for exceptions to the said repor
said Special Master:

I.

That in attempting to deduct from the undepreciated pres
value of the physical property, as the same is found to be by s
report, to-wit: $784,689, by subtracting therefrom the items
$20,000 for real estate and $15,757 for office and utility equ
ment, it sets out the remainder as $742,803, whereas said remain
should and must be $748,932, and taking the 72% thereof,
Master having found that the property is in 72% condition (or
other words is depreciated 28%) the result would be, were said
port otherwise correct, $539,231 as the depreciated value of the
preciable items instead of $534,818, as set out in said report;
in consequence of the error in subtraction above pointed out, w
said report otherwise correct, the items of value, found by said rep
for contractor's expense and profit $53,481 should be correspo
ingly increased to $53,923, for engineering and supervision $
740, as found by said report, should be correspondingly increa
too $26,961, for omissions and contingencies $10,696,
80 found by said report, should be correspondingly increased
$10,784, and the total aggregate value of $800,000, as fou
by said report, should be increased to $805,164.

II.

That it is evident, and said report and the evidence so sho
that what the Master undertoook to do and actually did was

duct from the undepreciated value of the property as found by
n, to-wit: $784,689, the items of $20,000 for real estate, $15,327
office equipment and $6,559 for utility equipment, and deduct-
g these three items, which aggregate $41,886, does leave as the
mainder the exact sum of $742,803 for the value of the depreciable
ms, being the amount found by the Master in the part of said
ort now under consideration, 72% of which sum is $534,818
nd by said report to be the depreciated value of said items; but
e errors in said report into which the Master evidently fell were
dvertently using $15,757 as the item for office equipment instead
the correct amount, to-wit: $15,327, and failing to specify said
,559 as one of the items going to make up the total total amount
ducted from the undepreciated present value of the property, and
ving in fact deducted it, he failed to include it in the items of
lue in the same way that he did include the items deducted for
l estate and office equipment in reaching the total value of the
operty which, with said item for utility equipment added, and
e difference between the figures $15,757 and $15,327 for office
uipment, to-wit: $430 deducted, should be $806,129, were said
ort otherwise correct.

III.

That it allows only $11,444 for interest during construction,
hereas it should allow therefor, as the evidence shows, at least 4%
said $534,818 to-wit: the sum of $21,392, which if properly al-
wed, as it should be, would further increase the total value of
aintiff's property to the sum of $816,077.

IV.

That it does not allow any sum whatever for taxes during construction, whereas it should allow therefor, as the evidence shows, at least the sum of $5,348, which if properly allowed, it should be, would further increase the total value of plaintiff's operty to the sum of $821,425.

V.

That it does not allow any sum whatever for preliminary opera-
n and adaptation, whereas it should allow therefor, as the evi-
nce shows, at least one-half of one per cent upon said $534,818,
wit: the sum of $2,674, which if property allowed, as it should
would further increase the total value of plaintiff's property to
e sum of $824,099.

VI.

That it allows plaintiff a rate of return of only 8%, whereas as
e evidence shows, it should allow a rate of return of at least 10%.

VII.

That having fixed the annual rate for depreciation allowance reserve at 4½%, it applies said rate to the depreciated value of t property, whereas it should apply said rate to the undepreciat value thereof.

TERRY, CAVIN & MILLS,
Attorneys for Plaintiff, Brush Electric Company.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. C of Galveston et al. Plaintiff's Exceptions to Report of Special M ter. Filed October 30, 1920. L. C. Masterson, Clerk. By G. P decki, Deputy.

82 *Final Decree.*

Filed and Entered March 1, 1921.

United States District Court, Southern District of Texas, at Galveston, January Term, March 1, 1921.

From the Equity Journal of said Court, Volume 2, Page 260.

Hon. J. C. Hutcheson, Jr., Judge Presiding.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

The above entitled and numbered cause came on to be heard this the January, 1921, term of this Court, and the Court havi heretofore referred the same to Lewis R. Ryan, Special Master, a said Master having taken testimony in due time made and filed h report herein, and exceptions to the Master's said report having be made, filed and urged both by the Complainant and the Defendan and the Court having considered said report and the exceptio thereto, and having taken additional testimony in open Court, a having heard the arguments of Counsel, it is here now on this t 28th day of February, 1921, found, considered, ordered, adjudg and decreed by the Court as follows, viz:

That the Complainant's first, second, third, fourth, fifth, six and seventh exceptions to said report of the Master should be a the same are here now overruled, and that the defendants' first, s ond, third, fourth, fifth, seventh, eighth, ninth, eleventh, twelf thirteenth, fourteenth, fifteenth and sixteenth exceptions should and the same are here now sustained, and that the defendants' six and tenth exceptions should be and the same are here now overrule and it is here now further considered, ordered, adjudged and d

creed by the Court that the temporary restraining order heretofore granted in this cause be and the same is here now dissolved and that the injunction prayed for by Complainant be and the same is refused and that Complainant's bill be and the same is dismissed without prejudice.

That said Special Master is hereby allowed the sum of Fifteen Hundred and no/100 Dollars ($1,500.00) fee for his services, to be taxed as costs, and that one-half of the Master's said fee and
83 one-half of the fees of the stenographer should be paid by and is hereby taxed against the Complainant, Brush Electric Company, and the other one-half of the Master's said fee and the other one-half of the stenographer's fees should be paid by and is hereby taxed against the defendants, City of Galveston, et al., and that all other costs of Court incurred in this proceeding to this date should be paid by and are hereby taxed against said Complainant, Brush Electric Company, to which judgment the plaintiff in open Court excepted and gave notice of appeal.

J. C. HUTCHESON, JR.

(Indorsements:) No. 38 Eq. Brush Electric Company v. City of Galveston et al. Draft of Decree. Filed 1st day of Mar., 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

84 *Assignment of Errors.*

Filed May 6, 1921.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Now comes Brush Electric Company, appellant, complainant in the above entitled and numbered cause and, in connection with its petition for appeal herein, makes and files the following assignment of errors upon which it will rely upon its prosecution of the appeal in said cause from the decree made and entered by this Honorable Court on the 28th day of February, 1921, to-wit:

1. The Court erred in sustaining and in not overruling defendants' first exception to the report of the Master, said exception being as follows, to wit:

"For that the Master used as a base the "bare bones" value of plaintiff's property, at the abnormal cost of reproducing such property at prices as of Jan. 1, 1920, viz., $784,689, whereas, if proper to proceed in this manner, he should have, under the evidence, taken

no higher value than the undepreciated cost of such property, as shown by the books or the sum of $576,898, being the agreed undepreciated "bare bones" value at averaged pre-war prices.

"(In these exceptions in referring to pre-war costs or values we mean the period prior to January 1, 1917, and not the period prior to the beginning of the European war in 1914.)"

2. The Court erred in sustaining and in not overruling defendants' second exception to the report of the Master, said exception being as follows, to wit:

"For that the Maaster, in determining the amount of accrued depreciation, deducted only 28% from the value of the depreciable property new, whereas, under the evidence, he should have deducted 46%, this latter per cent being the amount in per cent of accrued depreciation found to exist in the property by the witness Elrod. In this connection defendants urge that the present value of the property is fully 46% less than the value of such property new, and upon whatever base value of the property new that may be taken the accrued depreciation thereof should be fixed at 46% of the value so taken as a base. Exception is, therefore, made to that
85 part of the Master's report wherein he found the "depreciated value of depreciable items" to be $534,818.00, whereas he should have found, if valued in this manner, the "depreciated value of depreciable items" to be not more than $475,686.00 (being the record cost, less 46% depreciation. See Elrod's Report, Part I, page 132.) or $427,112 (being the reproduction value new at averaged pre-war prices, less depreciation. See Exhibit ——)."

3. The Court erred in sustaining and in not overruling defendants' third exception to the report of the Master, said exception being as follows, to wit:

"For that the Master found 'contractors' expense and profit 10%' amounting to $53,481.00, being 10% of the depreciated value of the depreciable items, as found by the Master, whereas, if valued in this manner, he should have found not more than 10% of the depreciated record cost, or 10% of the depreciated pre-war value, that is to say, he should have allowed for this item not more than $28,728.00."

4. The Court erred in sustaining and in not overruling defendants' fourth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master found for "engineering and supervision 5%," viz., $26,740.00, being 5% of the base value of $534,818.00, whereas he should, if valued in this manner, have found not more than $15,449.00."

5. The Court erred in sustaining and in not overruling defendants' fifth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master found for "omissions and contingencies 2%, viz., $10,696.00, being 2% of the depreciated value of the depreciable items, as found by the Master, whereas he should have allowed nothing for this item."

6. The Court erred in sustaining and in not overruling defendants' seventh exception to the report of the Master, said exception being as follows, to wit:

"For that the Master found for "going value" the sum of $46,195.00, whereas he should have allowed no additional amount for this item, having allowed full value for all overheads and having valued it as a going concern, and because the Company was, as is shown by the evidence, fully compensated in rates heretofore charged for the cost of developing the business."

7. The Court erred in sustaining and in not overruling defendants' eighth exception to the report of the Master, said exception being as follows, to wit:

86 For that the Master, in his report, found the value of plaintiff's property for rate-making purposes to be $800,000.00, whereas he should have found the fair value of the property, used and useful, for rate-making purposes does not exceed $510,000.00 and if valued in detail should have had values placed on the items severally no more than follows, viz:

Undepreciated Value of "Bare Bones," as per agreement (pre American War)		$576,898.
Less Real Estate		20,000
Total Depreciable Value of "Bare Bones," less Real Estate		$556,898
Less Accrued Depreciation (Elrod)		292,441
Total Depreciated Value of "Bare Bones"		$264,457
Add:		
Real Estate	$20,000	
Engineering (depreciated)	15,449	
Contractors' Profit	28,728	
Organization	11,404	
Interest during Const.	11,444	
Working Cash	33,980	
		121,005
Total Property Value for Rate Base		$385,462

But the total Record Cost of the properties, including all overheads and working cash, depreciated, is -510,000."

8. The Court erred in sustaining and in not overruling defendants' ninth exception to the report of the master, said exception being as follows, to wit:

"For that the Master has found that plaintiff company is entitled to a 4½% depreciation annuity on the total valuation of $800,000.00 placed on the property, whereas he should have found that plaintiff is entitled to no more than a 4% depreciation annuity on the fair value, for rate-making purposes, of the depreciable property. Defendants urge that plaintiff should not be allowed a depreciation annuity on real estate, working capital, material and supplies, office utility equipment, going concern value and the other overheads entering into and forming a part of the value of plaintiff's property."

9. The Court erred in sustaining and in not overruling defendants' eleventh exception to the report of the Master, said exception being as follows, to wit:

"For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "traveling expenses," the sum of $2,320.37, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense in determining the amount necessary for future operating expenses."

10. The Court erred in sustaining and in not overruling defendants' twelfth exception to the report of the Master, said exception being as follows, to wit:

87 "For that the Master has found in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "new business expense," the sum of $14,024.27, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense in determining the amount necessary for operating expenses. In this connection defendants show that such expenditures were to cover net losses sustained in conducting a mercantile electrical store."

11. The Court erred in sustaining and in not overruling defendants' thirteenth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "storm expense," the sum of $2,200.21, and for "fire expense," the sum of $6,379.99, whereas he should have found that plaintiff was not entitled to have such expenditures considered as an operating expense, but should have amortized the storm expense over a period equal to the re-

currence of storms, or ten to fifteen years, and the fire expense over a period of not less than ten years."

12. The Court erred in sustaining and in not overruling defendants' fourteenth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "valuation expense," the sum of $200.00, whereas he should have found that plaintiff was not entitled to anything for this as an operating expense, as this charge will not recur."

13. The Court erred in sustaining and in not overruling defendants' fifteenth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master has found, in determining the amount of revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to operating expenses for "condemned meters," the sum of $750.56 and for "condemned transformers," the sum of $75.03, whereas he should have found that plaintiff was not entitled to anything for either as an operating expense, but should charge the same to depreciation reserve."

14. The Court erred in sustaining and in not overruling defendants' sixteenth exception to the report of the Master, said exception being as follows, to wit:

"For that the Master has found, in determining the amount of operating expenses and the revenue produced under the ordinance of 1919, that plaintiff was entitled to charge to maintenance $47,-
534.29 for the year ending July 31, 1920, whereas he should
88 have found such amount to be excessive by $24,750.00, that is to say, he should not have allowed for maintenance more than $22,784.00, which is the average normal amount necessary to expend at prevailing prices for maintenance."

15. The Court erred in overruling and in not sustaining complainant's first exception to the report of the Master, said exception being as follows, to wit:

"That in attempting to deduct from the undepreciated present value of the physical property, as the same is found to be by said report, to-wit: $784,689, by subtracting therefrom the items of $20,000 for real estate and $15,757 for office and utility equipment, it sets out the remainder as $742,803, whereas said remainder should and must be $748,932, and taking the 72% thereof, the Master having found that the property is in 72% condition (or in other words is depreciated 28%) the result would be, were said report otherwise correct, $539,231 as the depreciated value of the depreciable items instead of $534,818, as set out in said report; and in

consequence of the error in subtraction above pointed out, were said report otherwise correct, the items of value, found by said report for contractor's expense and profit $53,481, should be correspondingly increased to $53,923, for engineering and supervision $26,740, as found by said report, should be correspondingly increased to $26,961, for omissions and contingencies $10,696, as found by said report, should be correspondingly increased to $10,784, and the total aggregate value of $800,000, as found by said report, should be increased to $805,164."

16. The Court erred in overruling and in not sustaining complainant's second exception to the report of the Master, said exception being as follows, to wit:

"That it is evident, and said report and the evidence so shows, that what the Master undertook to do and actually did was to deduct from the undepreciated value of the property as found by him, to-wit: $784,689, the items of $20,000 for real estate, $15,327 for office equipment and $6,559 for utility equipment, and deducting these three items, which aggregate $41,886, does leave as the remainder the exact sum of $742,803 for the value of the depreciable items, being the amount found by the Master in the part of said report now under consideration, 72% of which sum is $534,818 found by said report to be the depreciated value of said items; but the errors in said report into which the Master evidently fell were inadvertently using $15,858 as the item for office equipment instead of the correct amount, to-wit: $15,327, and failing to specify said $6,559 as one of the items going to make up the total amount deducted from the undepreciated present value of the property, and having in fact deducted it, he failed to include it in the items of value in the same way that he did include the items deducted for real estate and office equipment in reaching the total value of the property, with said item for utility equipment added, and the difference between the figures $15,757 and $15,327 for office equipment, to-wit: $430 deducted, should be $806,129, were said report otherwise correct."

89 17. The Court erred in overruling and in not sustaining complainant's third exception to the report of the Master, said exception being as follows, to wit:

"That it allows only $11,444 for interest during construction, whereas it should allow therefor, as the evidence shows, at least 4% on said $534,818 to-wit: the sum of $21,392, which if properly allowed, as it should be, would further increase the total value of plaintiff's property to the sum of $816,077."

18. The Court erred in overruling and in not sustaining complainant's fourth exception to the report of the Master, said exception being as follows, to wit:

"That it does not allow any sum whatever for taxes during construction, whereas it should allow therefor, as the evidence shows,

at least the sum of $5,348, which if properly allowed, as it should be, would further increase the total value of plaintiff's property to the sum of $821,425."

19. The Court erred in overruling and in not sustaining complainant's fifth exception to the report of the Master, said exception being as follows, to wit:

"That it does not allow any sum whatever for preliminary operation and adaptation, whereas it should allow therefor, as the evidence shows, at least one-half of one per cent upon said $534,818., to-wit: the sum of $2,674, which if properly allowed, as it should be, would further increase the total value of plaintiff's property to the sum of $824,099."

20. The Court erred in overruling and in not sustaining complainant's sixth exception to the report of the Master, said exception being as follows, to wit:

"That it allows plaintiff a rate of return of only 8%, whereas as the evidence shows, it should allow a rate of return of at least 10%."

21. The Court erred in overruling and in not sustaining complainant's seventh exception to the report of the Master, said exception being as follows, to wit:

"That having fixed the annual rate for depreciation allowance or reserve at 4½%, it applies said rate to the depreciated value of the property, whereas it should apply said rate to the undepreciated value thereof."

22. The Court erred in dissolving the temporary restraining order granted in this cause and refusing to grant to complainant the injunction prayed for by it enjoining the operation and
90 enforcement of the 1919 rate ordinance of the City of Galveston and dismissing complainant's bill on the ground that said ordinance has never been given a trial, the evidence showing, on the contrary, that the actual experience and operations of complainant from July 31st, 1919, the date when said ordinance became effective, to December 31st, 1920, would have resulted in a substantial net loss to complainant had said rate ordinance of 1919 been applied and enforced during that period, and that a greater net loss will result from the estimated experience and operations of complainant under said 1919 rate ordinance for the year 1921, and that said 1919 rate ordinance was passed and adopted by the Board of Commissioners of the City of Galveston without any valuation of complainant's property or any investigation, examination or audit of its business, operations, earnings or expenses.

23. The Court erred in dissolving the temporary restraining order granted in this cause and refusing to grant to complainant the injunction prayed for by it enjoining the operation and enforcement of the 1919 rate ordinance of the City of Galveston and dismissing

complainant's bill on the ground that the rates fixed by said ordinance are not shown by the evidence to be confiscatory, the uncontradicted evidence establishing, on the contrary, that said rates are inadequate and confiscatory applied to the value of plaintiff's property used and useful in the service of the public ascertained and determined by the cost of its reproduction new, including, besides the "bare bones," contractor's expense and profit, engineering and supervision and all similar expenses that enter into the process and cost of reproduction, all at prices prevailing and in effect at the time of its valuation as of January 1st, 1920, and later on January 1st, 1921, less actual accrued depreciation, and plus going value, the value ascertained and determined in this manner being the value of plaintiff's property for rate making purposes contended for by complainant in this cause.

91 24. The Court erred in not perpetuating and in failing and refusing to perpetuate the temporary restraining order granted in this cause and in not granting and in failing and refusing to grant to complainant the injunction prayed for by it enjoining the operation and enforcement of the 1919 rate ordinance of the City of Galveston and in dismissing complainant's bill, the evidence showing that the actual experience and operation of complainant from July 31, 1919, the date when said ordinance became effective, to December 31, 1920, would have resulted in a substantial net loss to complainant had said rate ordinance of 1919 been applied and enforced during that period, and that a greater net loss will result from the estimated experience and operations of complainant under said 1919 rate ordinance for the year 1921, and that said 1919 rate ordinance was passed and adopted by the Board of Commissioners of the City of Galveston without any valuation of complainant's property or any investigation, examination or audit of its business, properties, earnings or expenses; and the evidence further establishing that the rates fixed by said ordinance are inadequate and confiscatory applied to the value of plaintiff's property used and useful in the service of the public ascertained and determined by the cost of its reproduction new, including, besides the "bare bones," contractor's expense and profit, engineering and supervision and all similar expenses that enter into the process and cost of reproduction, all at prices prevailing and in effect at the time of its valuation as of January 1, 1920, and later on January 1, 1921, less actual accrued depreciation, and plus going value, the value ascertained and determined in this manner being the value of plaintiff's property for rate making purposes contended for by complainant in this cause.

92 25. The Court erred in not perpetuating and in failing and refusing to perpetuate the temporary restraining order granted in this cause and in not granting and failing and refusing to grant to complainant the injunction prayed for by it enjoining the operation and enforcement of the 1919 rate ordinance of the City of Galveston and in dismissing complainant's bill, because the evidence shows and the Master's report correctly found that said rate ordinance and the rates thereby prescribed are confiscatory, unconstitutional, void and not enforceable.

26. The decree is against the manifest weight and preponderance of the evidence.

27. The decree is without evidence to support it.

28. The decree is contrary to law.

Wherefore appellant prays that the decree of the District Court in this cause may be reversed and the cause remanded with directions to enter a decree granting the injunction prayd for, or for such further proceedings as may be in accordance with the order, judgment and opinion of the Supreme Court of the United States.

FRUEAUFF, ROBINSON & SLOAN,
TERRY, CAVIN & MILLS,
Attorneys for Appellant, Brush Electric Company.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. Assignment of Errors. Filed May 6, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

93 *Petition for Appeal and Order Thereon Allowing Same.*

Filed May 6, 1921.

In the District Court of the United States for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To The Honorable J. C. Hutcheson, Jr., District Judge:

Now comes Brush Electric Company, appellant, complainant in the above entitled and numbered cause, and feeling itself aggrieved by the final decree of this Court entered on the 28th day of February, 1921, hereby prays that an appeal may be allowed to it from the said decree to the Supreme Court of the United States, and, in connection with this petition, presents herewith its assignment of errors.

And your petitioner above named prays that proper order relating to the security to be required of it be made.

FRUEAUFF, ROBINSON & SLOAN,
TERRY, CAVIN & MILLS,
Solicitors for Complainant, Brush Electric Company.

Dated May 6, 1921.

The foregoing is allowed upon complainant giving bond as required by law in the sum of five thousand Dollars ($5,000.00).

J. C. HUTCHESON, JR.,
May 6, 1921. *District Judge.*

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. Petition for Appeal, and order thereon allowing same. Filed May 6, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

94 *Allowance of Appeal.*

Filed May 6, 1921.

In the United States District Court for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

On motion of complainant, Brush Electric Company, it is hereby ordered that an appeal to the Supreme Court of the United States from the decree heretofore filed and entered herein, be, and the same is hereby allowed, and that a certified transcript of the record testimony, exhibits, stipulations and all proceedings be forthwith transmitted to said Supreme Court of the United States.

It is further ordered that the bond of complainant on appeal be fixed at the sum of Five Thousand and no/100 Dollars ($5,000.00).

May 6, 1921.

J. C. HUTCHESON, JR.,
Judge United States District Court,
Southern District of Texas.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. Allowance of Appeal. Filed May 6, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

95 *Notice, and Acceptance Thereof, of Lodgment Statement of Evidence in Clerk's Office.*

Filed May 27th, 1921.

In the United States District Court for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To Frank S. Anderson, Esq., and Messrs. McDonald & Wayman, Attorneys for the Defendants in the Above Entitled and Numbered Suit:

We have this day lodged a statement of the evidence in the above entitled and numbered cause in the office of the Clerk of the United States District Court for the Southern District of Texas, at Galveston, Texas, in the Galveston Division of said District, for your examination, and on the 25th day of May, 1921, at 9:30 o'clock A. M., we will present the same to Honorable J. C. Hutcheson, Jr., Judge of said Court, and ask him to approve it, at his Chambers in the United States District Court House, Federal Building, in the City of Houston, in said Southern District.

Dated this 14th day of May, 1921.

FRUEAUFF, ROBINSON & SLOAN,
TERRY, CAVIN & MILLS,
Attorneys for said Plaintiff, Brush Electric Company.

Service of the foregoing notice is hereby accepted, and receipt of a copy thereof acknowledged, this 14th day of May, 1921.

FRANK S. ANDERSON,
City Atty.
McDONALD & WAYMAN,
Attorneys for said Defendants, City of Galveston et al.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston et al. Notice & Acceptance thereof, of Lodgment Statement of Evidence in Clerk's office. Filed 27th day of May, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

96 *Statement of the Evidence Introduced.*

Filed May 27, 1921.

In the United States District Court, Southern District of Texas, Galveston.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

versus

CITY OF GALVESTON et al.

Statement of the Evidence Introduced.

Plaintiff's Evidence Taken by the Special Master.

Plaintiff introduced in evidence the charter or articles of incorporation of the Brush Electric Light & Power Company of Galveston which was duly and legally executed by the incorporation July 2 1881, filed in the office of the Secretary of State of the State Texas, August 1, 1881, an extract from which charter is as follows

"Article I.

The name, style and title of said corporation shall be "The Brus Electric Light and Power Company of Galveston."

"Article II.

The purposes of this corporation and the nature of the busine to be conducted by it are declared to be the establishment, maintenance and operation of manufactories or works to supply citie towns and counties in the State of Texas, the street, public and pr vate buildings, grounds, gardens, yards, stores and houses, hotel mills, factories, cotton presses, depots and wharves therein situat with light, under the various inventions, and letters patent
97 known as, "The Brush Electric Light," and the sale of ma chines and other apparatus therewith connected; also, th sale of electric-plating machines, electro-motors, electric lamps an carbons, with the apparatus pertaining thereto, under the severa inventions of Charles F. Brush; also, the sale of rights or licenses t use either of said inventions or letters patent, and to manufactur and vend electric light, and to vend electric light machines and ap paratus, and electro-plating machines and apparatus; also the tran action of any business necessary or convenient to or connected wit the introduction into general use of the Brush Systems of electri lighting, electro-plating, electro-motors, electric lamps, carbons an all other electrical appliances and apparatus pertaining thereto, com

prehended under the general description and designation of "The Brush Apparatus."

"Article III.

The office and place of business of said Corporation shall be the City of Galveston, State of Texas.

"Article IV.

Said corporation shall exist and have succession by its said name for the term of Fifty Years.

"Article V.

The business and affairs of said Corporation shall be conducted by and under the superintendence and management of a Board of Directors composed of Five Stockholders; the persons in this article named have been appointed as the First Board of Directors of said Corporation, and shall serve as such until their successors shall have been elected, to-wit: William H. Sinclair, B. Adoue, Leon Blum, Julius Runge and Waters S. Davis, all residents and citizens of the City of Galveston, Texas.

"Article VI.

The capital stock of said corporation is hereby declared to be One Hundred and Fifty Thousand Dollars, divided into, or represented by Fifteen Hundred Shares, of the sum of One Hundred Dollars each, to be paid at such times, and in such installments as may be determined upon by the Board of Directors.

"Article VII.

Said Corporation shall have, possess and enjoy all the rights, powers and privileges conferred by the laws of said State, upon private corporations of like character, as fully as if the same were in terms herein specifically incorporated."

Plaintiff introduced in evidence as amendment to said charter of The Brush Electric Light and Power Company of Galveston, duly and legally executed December 12, 1910, filed in the office of the Secretary of State of the State of Texas, December 14, 1910, an extract from which amendment is as follows:

"Know all men by these presents:

"That at a meeting of the stockholders of The Brush Electric Light and Power Company of Galveston, a corporation, held in the office of said Company in Galveston, Texas, on the 12th day of December, 1910, in conformity with the By-laws thereof, more than two-thirds of the stock of said corporation was voted to increase its capital stock from one hundred and fifty thousand dollars ($150,000.00) to two hundred and fifty thousand dollars ($250,000.00).

"Now, therefore, we, the Board of Directors of said corporati in compliance with the action of the Stockholders aforesaid, ha this 12th day of December, 1919, increased the capital stock of sa corporation from one hundred and fifty thousand dollars ($15 000.00) to two hundred and fifty thousand dollars ($250,000.0 and we hereby certify that all of said increased capital stock h been subscribed and all of said increased capital stock paid in, per affidavit hereto attached."

Plaintiff introduced in evidence a franchise ordinance granti said Bruch Electric and Power Company of Galveston certa franchises, rights, etcetera, passed and adopted by the C
99 Council of the City of Galveston, February 21, 1895, whi ordinance is as follows:

"Be it ordained by the City Council of the City of Galveston.

"Sec. 1. That there is hereby granted to the Brush Electric Lig and Power Company of Galveston, the right to set poles, pin-ab ments, wires and other necessary fixtures along the streets and alle of the City of Galveston for the purpose of furnishing elect light and power, subject to the regulations hereafter provided.

"Sec. 2. That the poles, pin-abutments, wires and other necess fixtures shall be so set, constructed and operated as not to obstr or interfere with the convenient use of the streets by vehicles or p sons on foot.

"Sec. 3. That the wires shall be so strung as not to interfere wi any of the city fire alarms or city electric light wires.

"Sec. 4. That the right is hereby reserved to the city at any ti to direct any alteration in the location of the poles or in the heig at which the wires shall be run.

"Sec. 5. That the said company shall at all times have on depo with the city treasurer a sum of not less than fifty dollars, subj to the order of the city engineer, to be used by him in restoring a sidewalk, gutter, street or alley, pavement displaced or injured the setting or removal of any pole set or removed by said compan or for the changing of the location of any of the poles of said co pany, whenever said company fails or refuses to make said alte tion to the satisfaction of the city council.

"Sec. 6. That said company shall at all times permit the ci to use and occupy the cross-arm of any pole erected or to be erecte for fire, police, or municipal telegraph or telephone purposes fr of charge.

"Sec. 7. That said company shall become solely responsible an hold the city harmless against all damages growing out of the u of its streets and sidewalks under the provisions of this ordinan

"Sec. 8. That this grant of license is made subject to the charter and ordinances of the city of Galveston as the same w are or may hereafter be.

"Sec. 9. That a consolidation, combination or joining or uniting h any other company or corporation by the Brush Electric Light l Power Company of Galveston shall of itself forfeit the rights l privileges hereby granted.

"Sec. 10. That the rights, privileges and licenses hereby granted ll not be transferred or assigned without the consent of the City ncil of the city of Galveston, and such transfer and assignment hout such consent shall of itself forfeit all the rights, privileges l licenses hereby granted.

"Sec. 11. That whenever the charge fixed by said company for ht shall become unreasonable or beyond what such lights can sonably be supplied, then the city council reserves the right to fix aximum rate to be charged by said company either for lights fur- hed to the city or to private consumers.

"Sec. 12. That the said rights, privileges and franchises are hereby nted for the term of twenty-five years from the passage of this dinance upon condition that the said company signifies its accept- e in writing, to be filed with the city clerk, of all the terms and of the provisions of this ordinance within thirty days after its sage."

Plaintiff introduced in evidence an ordinance granting franchises, hts, et cetera, to said Brush Electric Light and Power Company, sed by the Board of Commissioners of the city of Galveston March 1911, which ordinance is as follows:

"An ordinance granting to the Brush Electric Light and Power mpany of Galveston, the right, privilege and franchise to own, construct, maintain and operate poles, pin-abutments, wires and er necessary fixtures along, in, over and upon the streets and ys of the City of Galveston for the purpose of furnishing electric ht and power.

"Be it ordained by the Board of Commissioners of the City of Galveston.

"Sec. 1. That there be and is hereby granted to the Brush Electric ht and Power Company of Galveston, hereinafter called the Com- y, the right, privilege and franchise to own, set, construct, main- and operate for the period of fifty years from and after the e of the passage of this Ordinance poles, pin-abutments, wires other necessary fixtures along, in, over upon the streets and ys of the City of Galveston for the purpose of furnishing elec- light and power, subject to the regulations hereinafter provided.

"Section 2. That said poles, pin-abutments, wires and other neces- fixtures shall be so set, constructed, maintained and operated as

not to interfere with the convenient use of the streets by vehicles
pedestrians.

"Section 3. That said wires shall be so strung as not to interfe
with any of the city fire alarm or electric light wires.

"Section 4. The right is hereby reserved to the City of Galves
to at any time direct and compel any alteration in the location
such poles or in the height at which said wires shall be strung.

"Section 5. That said company shall at all times have on depo
with the city treasurer at the City of Galveston, a sum of not l
than Fifty Dollars ($50.00), subject to the order of the city en
neer of said city, to be used by him in restoring any sidewalk, gut
street, alley, or pavement displaced or injured in the setting or
moval of any pole set or removed by said company, or for
changing of the location of any of the poles of said company, wh
ever said company fails or refuses to make such alteration to
satisfaction of the Board of Commissioners of the city of Gal
ton.

"Section 6. That said Company shall at all times permit the C
of Galveston, free of charge, to attach to any pole now or hereaf
erected and maintained by said company under this ordinance,
standard crossarm, and to use and occupy such cross-arm to ca
any wire or wires owned by the City of Galveston and used by s
City for municipal service only, the location of such cr
102 arm on any such pole to be designed by said company, p
vided, however, that said City shall not have the right
attach any such cross-arm to any such pole carrying wires of s
Company the voltage between which wires shall exceed 2,300 vo

"Section 7. That said Company shall be solely responsible a
shall hold said City harmless against all damages growing out
the use of said streets and sidewalks by said Company under
provisions of this Ordinance.

"Section 8. This grant of license is made subject to the cha
and ordinance of the City of Galveston now in force.

"Section 9. That whenever the charges fixed by said company
lights shall become unreasonable or beyond what such lights
reasonably be supplied for, then the right is hereby reserved to
Board of Commissioners of said City of Galveston, or other gov
ment of said City, to fix a maximum rate to be charged by said c
pany for light furnished either to the said City, or to other
sumers.

"Section 10. The grant made by this ordinance is made upon
express condition that said company shall, and by its acceptanc
this ordinance agrees and binds itself that it will, at any time du
the period of ten years beginning on the date of the passage of
ordinance furnish and deliver to said City of Galveston, if said C
so desires for use and consumption of said City only, includ

ghting of the Seawall Boulevard, furnished by said City, at and
r the rate and price of two and one-half cents per kilowatt hour,
o phase 60 cycle 2,200 volt primary alternating electric current,
be delivered and measured at said Company's switch board
rough a meter to be furnished by said Company, said meter to be
libratcd every six months, if so requested by said City, in the
esence of the City's Electrical Engineer, and to be correct within
o per cent, said current however, to be used by said City only
d not to be furnished by said City to any other consumer or user
current.

"Said City shall construct and maintain its own lines to carry
d current after it leaves said Company's switch board, and said current shall be the property of said City from the time it leaves said switch board, and said Company shall be in no way held responsible therefore after the passage of said current from its switch board watt hour meter.

"Said City shall be alone responsible for injury or damage to person or property caused by said current occurring at any point on d lines after said current leaves said Company's switch board watt our meter.

"Said City shall furnish to said Company on the first day of each lendar month a schedule or statement showing approximately the rrent said City will require during each said month and the time ring said month when said current will be required, and said y shall give said Company reasonable notice of any additional rrent it may require during said month.

"If said City exercises its said option to purchase current from d Company then said City shall purchase all such current for use thin the City of Galveston from said Company, and shall not purase any such current for use from any other source, nor itself anufacture any such current for such use.

"Said City shall pay said company on or before the third Monay of each calendar month for current used by said City under is ordinance during the last preceding calendar month.

"Said Company shall use all reasonable diligence to maintain uninterrupted service in the delivery of current to the City under this dinance and in case it shall at any time become necessary for said mpany to pull its circuit then the circuit serving said City shall be last pulled.

"Section 11. As a further consideration for the grant made by is ordinance, said company shall, and by its acceptance of this dinance agrees and binds itself that it will install or control by me switches a circuit that will be known as a sign circuit, which ll burn from dusk until midnight each night, except in event of terference by accident to or other disability of the Company's nt or circuit, and will be controlled by said Company and cut on by said Company at dusk and cut off by said Company at midnight, and by said circuit said Company will furnish electric current to consumers desiring it for the lighting of gns and exterior lighting and private street decorative lighting ad-

jacent to stores or buildings at and for a rate or price of six cen per kilowatt hour, each consumer to sign said Company's contract f use by it at the time of making such contract and to contract f not less than one year's supply at a time, and to pay therefor whethe used or not used, the quantity of current contracted for to be base upon the number of kilowatts demand and a six hour per night ave age useage for three hundred and sixty-five days, the quantity current for flash signs to be based upon their demand load and n upon the number of flashes, and the minimum charge per conne tion to be not less than Two Dollars and Fifty Cents per month durin the contract period; each customer to furnish and install at his ow cost and expense the necessary service wires to reach the Company poles, and signs and apparatus of every kind and description f using said current and said Company not to be responsible for an injury or damage to person or property caused by said current any time or place after it leaves said Company's pole line, the co sumer to be solely liable and responsible for and to indemnify sa Company against any such loss, injury or damage, each consumer pay the Company not later than the tenth day of each calend month on the basis specified in the contract between the consum and said Company.

"Section 12. That all work done under this ordinance shall b done in such manner and within such time that the use of the stree shall not be interfered with, and any pavement or any other part any street, alley or other ground disturbed in the progress of suc work shall be restored at the expense of the said grantee in suc manner as shall be acceptable to the city engineer of said City.

"Section 13. That all work of construction, maintenance, an repair done under this ordinance shall be performed under the d rection, supervision and control of and to the satisfaction and a proval of the City Engineer of said City, or other official or officia of said City who may be charged with such direction, supe
105 vision and control, and so as not to interfere with or hinde the drainage of said City, the right being hereby reserved the said City of Galveston to remove, or cause to be removed, at th expense of the grantee herein, any structure constructed under th ordinance whenever, in the judgment of the Board of Commissioner or other Government of said City, it shall become expedient or nece sary to do so, and all the property, structures and appliances co structed, provided, used or employed under this ordinance sha always be maintained in good, serviceable and safe condition.

"Section 14. That said City of Galveston does not part with, b expressly reserved the right and duty to at all times exercise in th interest of the public full superintendence, regulation and contro in every respect, over the rights, privileges and permission herei granted, and especially in all matters connected with the police po ers of said City, and from time to time may restrict or modify th terms of conditions upon which the same may be used or continue or revoke the same, according to the demands of the public safet

and in case any of the conditions and terms of this ordinance, or of any other ordinance, rule, regulation or provision heretofore or hereafter enacted for observance in the construction, maintenance or use of the property hereby permitted to be constructed, maintained and used, shall be violated and not complied with, then and in such event, the Board of Commissioners, or other government of said City of Galveston, may, by ordinance, or other act, declare or cause to be forfeited all the grants hereby made, or otherwise compel compliance with the terms of this ordinance and the maintenance of said property in good condition through the full term of the grant hereby made.

"Section 15. That no permission, privilege, or right by this ordinance granted shall be transferred, assigned or let to any person or corporation without the assent of the City of Galveston being first obtained by ordinance duly enacted and any such transfer, assignment or letting shall be subject always to the terms and con-
106 ditions of this ordinance and every other rule or regulation now in force or hereafter made upon the subject.

"Section 16. Before any of the terms of the grant made by this ordinance may be used or enjoyed by said grantee, the said grantee shall signify its agreement to and acceptance of this Ordinance, and all of its terms, in writing, properly signed by said grantee's authorized representative, which acceptance shall be deposited with the City Secretary of the City of Galveston within sixty days from and after the date of the passage of this ordinance.

"Section 17. This ordinance shall take effect and be in force from and after its passage, provided the same is accepted in accordance with the terms of Section 16 of this Ordinance."

Plaintiff introduced in evidence an ordinance consenting for said Brush Electric Light and Power Company of Galveston to assign its franchise, et cetera, passed and adopted by the Board of Commissioners of the City of Galveston March 23, 1911, which ordinance is as follows:

"An Ordinance Granting to The Brush Electric Light and Power Company of Galveston the assent and consent of the City of Galveston to transfer and assign the permission, rights, privileges and franchises granted to said The Brush Electric Light and Power Company of Galveston by an ordinance passed and adopted by the Board of Commissions of the City of Galveston on the 16th day of March, 1911.

"Be it ordained by the Board of Commissioners of the City of Galveston.

"Section 1. That there be and is hereby granted to the Brush Electric Light and Power Company of Galveston the assent and consent of the City of Galveston for said The Brush Electric Light and Power Company of Galveston, at any time within twelve months

after the passage of this ordinance, to transfer and assign all the permissions, rights, privileges and franchises granted to said
107 The Brush Electric Light and Power Company of Galveston by an ordinance passed and adopted by the Board of Commissioners of the City of Galveston on the 16th day of March, 1911, entitled: "An Ordinance granting to The Brush Electric Light and Power Company of Galveston the right, privilege and franchise to own, set, construct, maintain and operate poles, pin-abutments, wires and other necessary fixtures along, in, over and upon the streets and alleys of the City of Galveston for the purpose of furnishing electric light and power;" provided, however, that the assignee or assignees of said The Brush Electric Light and Power Company of Galveston shall not have the right to transfer, assign or let any of such permission, rights, privileges or franchises without the assent of the City of Galveston being first obtained by ordinance duly enacted, and any such transfer, assignment or lettering shall be subject always to the terms and conditions of said ordinance passed and adopted on the 16th day of March, 1911, and of any and every other rule and regulation now in force or hereafter made upon the subject, and, provided, that the assignee and assignees of the said The Brush Electric Light and Power Company of Galveston shall within thirty days after the date of such assignment from said The Brush Electric Light and Power Company of Galveston deposit in the office of the City Secretary of the City of Galveston the written acceptance of such assignee or assignees of said assignment, and all of the terms, conditions and obligations of said ordinance passed and adopted by said Board of Commissioners on the 16th day of March, 1911, and obligating such assignee or assignees to faithfully carry out and perform all the stipulations, conditions, terms, obligations imposed upon the said The Brush Electric Light and Power Company of Galveston by said ordinance passed and adopted on said 16th day of March, 1911, by said Board of Commissioners.

"Section 2. That this ordinance shall take effect and be in force from and after its passage."

Plaintiff introduced in evidence the charter or certificate
108 of incorporation of Brush Electric Company, and amended charter or amended certificate of Brush Electric Company, same being as follows:

"Certificate of Incorporation of Brush Electric Company.

"We, the undersigned, having associated to establish a corporation for the purposes hereinafter stated, under and pursuant to the provisions of an act of the legislature of the State of Delaware, entitled: "An Act providing a General Corporation Law," approved March 10th, 1899, and the acts amendatory thereof and supplemental thereto, do hereby make and file a Certificate of Incorporation in writing as follows:

"First. The name of the corporation is Brush Electric Company.

"Second. Its principal office and place of business in the State of Delaware is to be located in the City of Dover, County of Kent. The name of its resident agent is James M. Satterfield.

Third. The nature of the business and the objects and purposes proposed to be transacted, promoted and carried on by it, are as follows, to wit:

(*a*) To buy, acquire, lease, construct, work, maintain and operate plants, works, systems, poles, pole lines, conduits, ducts and subways for the production, supply, distribution and sale of electricity for light, heat, power and any other use to which electricity is or hereafter may be applied.

(*b*) To acquire, construct, lease, maintain and operate reservoirs, dams, canals, ditches, flumes, pipe lines, water powers and water power sites, and all other works necessary or convenient for the diversion, storage, distribution or use of water.

"Fourth. The amount of the total authorized capital stock of this corporation is Three Hundred Thousand Dollars ($300,-109 000.00) divided into Three Thousand (3,000) shares of the par value of One Hundred Dollars ($100.00) each. The amount of capital stock with which it will commence business is Three Hundred Thousand ($300,000.00) Dollars.

"Fifth. The names and places of residence of each of the original subscribers to the capital stock and the number of shares subscribed for by each, are as follows:

Name.	Residence.	No. of shares.
Franklin Temple.....	Dover, Delaware.....	3
M. M. Hirons.....	Dover, Delaware.....	3
James M. Satterfield.....	Dover, Delaware.....	2,994

Sixth. The corporation is to have perpetual existence.

Seventh. The private property of the stockholders shall not be subject to the payment of corporate debts to any extent whatever.

Eighth. The provisions which the incorporators hereby insert in the Certificate of Incorporation of the Corporation for the regulation of the business and for the conduct of the affairs of the corporation, and creating, defining, limiting and regulating the powers thereof, and of the directors and stockholders, the same being in furtherance of and in addition to and not in limitation of the powers now or hereafter conferred by the present or any future law or laws of the State of Delaware, are as follows:

1. The number of directors of the corporation shall be fixed and may be altered from time to time as may be provided in the by-laws; and in case of any increase in the number of directors, the additional directors shall be elected as provided in the by-laws.

2. The corporation shall have power, acting through its Board of Directors, except that in cases where action of the stockholders shall be required by statute, such action shall also be obtained.

(*a*) From time to time to issue its stock, bonds and other obligations for labor done, or property received for its use and
110 lawful purposes.

(*b*) To borrow money, and to make and issue notes, bonds, debentures, obligations and evidence of indebtedness, whether secured by mortgage, pledged or otherwise, and to secure the same by mortgage, pledge or otherwise of all or any part of its property or assets, and generally to make and perform agreements and contracts of every kind and description.

In witness *of* whereof, We, the undersigned, being each of the original subscribers to the capital stock of the Brush Electric Company, have hereunto set our hands and seals this 14th day of February, 1912.

FRANKLIN TEMPLE. [L. S.]
M. M. HIRONS. [L. S.]
JAMES M. SATTERFIELD. [L. S.]

Attest:
EDWIN F. WOOD.

STATE OF DELAWARE,
County of Kent:

Be it remembered that on this 14th day of February, A. D. 1912, personally appeared before me the subscriber, a Notary Public for the State of Delaware; Franklin Temple, M. M. Hirons and James M. Satterfield, parties to the foregoing certificate of Incorporation, known to me personally to be such, and severally acknowledged the said Certificate of Incorporation to be their act and deed, and that the facts therein stated are truly set forth.

Given under my hand and seal of office, the day and year aforesaid.

EDWIN F. WOOD,
Notary Public.

Edwin F. Wood, Notary Public, Delaware. Appointed March 13th, 1919, for four years.

State of Delaware.

Office of Secretary of State.

I, Charles S. Richards, Secretary of State of the State of Delaware, do hereby certify that the above and foregoing is a true
111 and correct copy of Certificate of Incorporation of the "Brush Electric Company," as received and filed in this office the fourteenth day of February, A. D. 1912, at 11 o'clock A. M.

In testimony whereof, I have hereunto set my hand and official al, at Dover, this twenty-first day of March, in the year of our ord One thousand nine hundred and twelve.

[SEAL.] CHARLES S. RICHARDS,
Secretary of State."

"*Amended Certificate of Brush Electric Company.*

It is hereby certified that Brush Electric Company has duly dopted an amendment to its Certificate of Incorporation, which said mendment is in lieu of the former Article Fourth, and is as follows:

Fourth. The amount of the total authorized capital stock of this rporation is Two Million Five Hundred Thousand Dollars ($2,-00,000.00), divided into twenty-five thousand (25,000) shares of ne par value of One Hundred Dollars ($100.00) each. Of such apital stock twenty thousand (20,000) shares shall be common ock and five thousand (5,000) shares shall be preferred stock. The olders of the preferred stock shall be entitled to receive out of the rplus or net proceeds of the corporation, dividends, when and as eclared by the directors, payable at such periods as shall be fixed y them at the rate of six per centum per annum, and no more, efore any dividends shall be paid or set apart for payment upon the ommon stock.

The dividends on the preferred stock shall be cumulative so that for any period the same shall not be paid, the right thereto shall cumulate as against the common stock, and all arrears so accuulated shall be paid before any dividends shall be paid on the ommon stock.

Whenever all accumulated dividends on the outstanding 12 preferred stock for all previous periods shall have been declared and shall have become payable and the corporation all have paid such accumulated dividends for such previous riods, or shall have set aside from its surplus or net profits, a sum fficient therefor, the Board of Directors may declare dividends on e common stock, payable then or thereafter, out of any remaining rplus or net profits. The right to subscription for new or additional shares of either common or preferred stock shall be as the rectors shall from time to time determine.

In the event of any liquidation, or dissolution, or winding up, hether voluntary or involuntary, of the corporation, the holders of e preferred stock shall be entitled to be paid in full the par value their shares and any unpaid accrued dividends thereon before any mount shall be paid to the holders of the common stock, and after e payment to the holders of the preferred stock of its par amount, d the unpaid dividends accrued thereon, the remaining assets shall distributed to the holders of the common stock.

The amount of capital stock with which this corporation shall mmence business is Three Hundred Thousand Dollars ($300,-0.00).

In witness whereof, the Brush Electric Company has caused th
Certificate of Amendment of its Certificate of Incorporation to b
duly certified by its President, and attested by its Secretary, and
duplicate of the certificate of the Judge of said meeting to be a
tached hereto, this 13th day of March, 1912.

[Corporate Seal Brush Electric Company, Delaware, 1912.]

BRUSH ELECTRIC COMPANY,
By LOUIS F. MUSIL,
President.

Attest:
CHARLES W. GILBERT,
Secretary.

It is hereby certified by the undersigned William F. Cook, an
M. M. Hirons, duly elected as Judges to decide upon the qualific
tion of the voters and to count and ascertain the number
113 shares voted respectively for and against an amendment
Article Fourth of the Certificate of Incorporation of Brus
Electric Company, at a special meeting of the stockholders of sa
company, held at Dover, Delaware, on the 12th day of March, 191
and hereby declared that the persons holding the entire outstandi
stock of said corporation were represented at such meeting, either
person or by duly executed proxies, and that the same, and a
thereof, duly voted by ballot in favor of said proposed amendme
and that the number of shares so voting in favor of said amendme
was three thousand, and none against the same.

Done and executed in duplicate at Dover, Delaware, this 12
day of March, 1912.

WILLIAM F. COOK,
M. M. HIRONE,
Judges of Special Meeting of Stockholders.

STATE OF NEW YORK,
County of New York:

Before me, a Notary Public, duly authorized to act in the coun
and state aforesaid, personally appeared Louis F. Musil, to m
known and known to me to be the President of Brush Electric Co
pany, and duly acknowledged that he executed the foregoing instr
ment as and for his free and voluntary act and deed of the sa
corporation, for the uses and purposes therein set forth; and h
further deposed and said that the duplicate certificate thereto a
tached is the true and duplicate certificate of the judges of th
meeting of the stockholders at which the foregoing amendme
was duly adopted.

Subscribed and sworn to before me this 13th day of March, 1912.
ANNA R. CROSSIN,
Notary Public, Kings County.

Certificate Filed in New York County, No. 134.
Anna R. Crossin, Notary Public, Kings County.

114 State of Delaware,

Office of Secretary of State.

I, Charles S. Richards, Secretary of State of the State of Delaware, do hereby certify that the above and foregoing is a true and correct copy of Certificate of Amendment of Certificate of Incorporation of "The Brush Electric Company," as received and filed in this office the eighteenth day of March, A. D. 1912, at 9 o'clock A. M.

In testimony whereof, I have hereunto set my hand and official seal, at Dover, this twenty-first day of March, in the year of our Lord one thousand nine hundred and twelve.

[SEAL.] CHARLES S. RICHARDS,
Secretary of State."

Plaintiff introduced in evidence an acceptance and obligation of Brush Electric Company and the Exhibit "A" attached thereto, same being as follows:

"To the Board of Commissioners of the City of Galveston:

Brush Electric Company, a corporation duly and legally incorporated and existing under and by virtue of the laws of the State of Delaware, has agreed to and accepted, and hereby agrees to and accepts and signifies its agreement to and acceptance of that certain ordinance passed and adopted by the board of commissioners of the City of Galveston at a regular meeting of said board held on the 16th day of March, A. D. 1911, and all the terms, conditions and obligations thereof, entitled:

'An Ordinance granting to The Brush Electric Light and Power Company of Galveston the right, privilege and franchise to own, set, construct, maintain and operate poles, pin-abutments, wires and other necessary fixtures along, in, over and upon the streets and alleys of the City of Galveston, for the purpose of furnishing electric light and power';

And said Brush Electric Company has also agreed to and 115 accepted the assignment to it by said The Brush Electric Light and Power Company of Galveston of all the permission, rights, privileges, and franchises granted to said The Brush Electric Light and Power Company of Galveston by said ordinance which said assignment is dated March 18th, 1912, a substantial copy of which is hereto attached, marked for identification Exhibit

"A" and made a part hereof, and hereby referred to for all pur-
poses:

And said Brush Electric Company has obligated and does hereb
obligate itself to faithfully carry out and perform all the stipula-
tions, conditions, terms and obligations imposed upon said The Brus
Electric Light and Power Company of Galveston by said ordinance

And said Brush Electric Company deposits in the office of th
city secretary of the City of Galveston this, its written acceptanc
of said ordinance and all the terms, conditions and obligation
thereof, and this, said Brush Electric Company's obligation to faith-
fully carry out and perform all the stipulations, conditions, term
and obligations imposed upon said The Brush Electric Light an
Power Company of Galveston by said ordinance, as said ordinanc
appears of record in the office of said city secretary.

In witness whereof, said Brush Electric Company has caused thes
presents to be executed and signed by its President and its corpora
seal hereto affixed, attested by its secretary on this the 11th da
of April, 1912.

[SEAL.] BRUSH ELECTRIC COMPANY,
By LOUIS F. MUSIL,
Its President.

Attest:
CHARLES B. GILBERT,
Secretary of Brush Electric Company.

Approved as to Form:
MART. H. ROYSTON,
City Attorney.

116 EXHIBIT "A."

STATE OF TEXAS,
County of Galveston:

Know all men by these presents:

That The Brush Electric Light and Power Company of Galve
ton, a corporation duly and legally incorporated and existing und
and by virtue of the laws of the State of Texas, with its domici
in the City and County of Galveston, Texas, acting herein by i
President, and under and by virtue of the authority of a resoluti
adopted by the unanimous vote of the stockholders holding all th
stock of said corporation duly and legally held at the office of sa
corporation in the city and County of Galveston, Texas, on th
the 18th day of March, 1912, and a resolution unanimously adopte
by the Board of Directors of said corporation at a meeting of sa
board duly and legally held at the office of said corporation in sa
city of Galveston on said 18th day of March, 1912, substantial cop
of which resolutions, marked for identification respectively Exhib
A and Exhibit B and hereto attached are made a part hereof, fo
and in consideration of the sum of Ten Dollars ($10.00), and oth

aluable considerations, the receipt of which by said The Brush Electric Light and Power Company of Galveston is hereby acknowledged, has bargained, sold and assigned, transferred and set over o Brush Electric Company, a corporation duly and legally incorporated and existing under and by virtue of the laws of the State f Delaware, and having a permit to do business in the State of Texas, all the permission, rights, privileges and franchises granted o said The Brush Electric Light and Power Company of Galveston by an ordinance adopted by the Board of Commissioners of the City f Galveston on March 16th, 1911, the same being so sold, assigned, ransferred and set over in accordance with the assent and consent f the City of Galveston as expressed in a certain ordinance of said ity passed and adopted by the board of commissioners of said city of Galveston at a meeting of said board held March 23, 1911.

17 In witness whereof, said The Brush Electric Light and Power Company of Galveston has caused these presents to be xecuted by its president, and its corporate seal hereto affixed, attested by its Secretary at Galveston, Texas, this 18th day of March, 912.

THE BRUSH ELECTRIC LIGHT AND
POWER COMPANY OF GALVESTON,
By H. J. RUNGE,
[Corporate Seal.] *Its President.*

Attest:
KENNETH E. MASON,
Secretary the Brush Electric Light and Power Company of Galveston.

THE STATE OF TEXAS,
County of Galveston:

Before me, the undersigned authority, a Notary Public in and for Galveston County, Texas, on this day personally appeared H. J. Runge, President of the Brush-Electric Light and Power Company f Galveston, a corporation, and Kenneth E. Mason, Secretary of aid corporation, both known to me to be the persons whose names re subscribed to the foregoing instrument and they each acknowledged to me that they executed the same for the purposes and consideration therein expressed and as the act and deed of said corporation.

Given under my hand and seal of office, at Galveston, Texas, this 9th day of March, 1912.

C. D. ADRIANCE.
Notary Public in and for Galveston County, Texas.

EXHIBIT A.

Whereas, the Brush Electric Light and Power Company of Galveston has contracted and agreed with Brush Electric Company to

sell, assign, transfer and convey to said Brush Electric Company, corporation incorporated and existing under and by virtue of t laws of the State of Delaware, and having a permit to do busine in Texas, all the assets, properties and franchises of said T
118 Brush Electric Light and Power Company of Galveston; a

Whereas, it is necessary to transfer and assign all the p mission, rights, privileges and franchises granted to said The Bru Electric Light and Power Company of Galveston by an Ordinan adopted by the Board of Commissioners of the City of Galveston March 16th, 1911, on or prior to the 23rd day of March, 191 and

Whereas, it is not at this time expedient or convenient, and w not be expedient or convenient until after said 23rd day of Mar 1912, to convey, assign and transfer to said Brush Electric Compa the other properties and assets of said The Brush Electric Light a Power Company of Galveston;

Be it resolved by the stockholders holding all the stock of s The Brush Electric Light and Power Company of Galveston, at meeting of said stockholders duly and legally held on this the 18 day of March, 1912, at the office of said The Brush Electric Lig and Power Company of Galveston in the City of Galveston, Tex that said permission, rights, privileges and franchises so granted said ordinance adopted March 16th, 1911, be transferred, conve and assigned prior to the 23rd day of March, 1912, to said Bru Electric Company for the expressed consideration of Ten Dolla ($10.00) and other valuable considerations, and that the board directors of said The Brush Electric Light and Power Company Galveston be and is hereby directed, authorized and required to ta all necessary steps and adopt all necessary resolutions to cause s transfer, conveyance and assignment to be executed and that t President of said The Brush Electric Light and Power Company Galveston be and he is hereby authorized, directed and empowe for and in the name of said The Brush Electric Light and Pow Company of Galveston, attested by its Secretary.

THE STATE OF TEXAS,
County of Galveston:

We hereby certify that the above and foregoing is a true a correct copy of a resolution duly and legally adoted by the una mous vote of the stockholders holding all the stock of T
119 Brush Electric Light and Power Company of Galveston, corporation, at a meeting of said stockholders duly a legally held on the 18th day of March, 1912, at the office of s corporation, in the City of Galveston, Texas, as said resolution pears of record in the Minutes of said meeting.

Witness our official signature and the seal of said corporation hereto affixed, attested by its Secretary, at Galveston, Texas, this the 18th day of March, 1912.

H. J. RUNGE,
President of the Brush Electric Light and Power Company of Galveston.
KENNETH E. MASON,
Secretary of the Brush Electric Light and Power Company of Galveston.

Attest:
[SEAL.] KENNETH E. MASON,
Secretary of the Brush Electric Light and Power Company of Galveston.

EXHIBIT B.

Be it resolved by the Board of Directors of The Brush Electric Light and Power Company of Galveston, at a meeting of said Board duly and legally held at the office of said Company in the City of Galveston, Texas, on this the 18th day of March, 1912, in obedience to and in accordance with a resolution adopted by the unanimous vote of the stockholders holding all the stock of said The Brush Electic Light and Power Company of Galveston, at a meeting of said stockholders duly and legally held at the office of said The Brush Electric Light and Power Company of Galveston, in the City of Galveston, Texas, on this the 18th day of March, 1912, that all the permission, rights, privileges and franchises granted to said The Brush Electric Light and Power Company of Galveston, by an ordinance adopted by the board of commissioners of the city of Galveston on March 16th, 1911, be assigned, conveyed and transferred to Brush Electric Company, a corporation incorporated and existing under and by virtue of the laws of the State of Delaware, and
120 having a permit to do business in Texas, for the expressed consideration of Ten Dollars ($10.00) and other valuable considerations, and that the president of said The Brush Electric Light and Power Company of Galveston be and he hereby is authorized and empowered to execute and deliver said assignment, conveyance and transfer for and in the name of said The Brush Electric Light and Power Company of Galveston and under its seal, attested by its Secretary.

THE STATE OF TEXAS,
County of Galveston:

We hereby further certify that the above and foregoing is a true and correct copy of a resolution duly and legally adopted by the board of directors of The Brush Electric Light and Power Company of Galveston, a corporation, at a meeting of said board duly and legally held at the office of said corporation, in the City of Galveston, Texas, on the 18th day of March, 1912, as the same appears of record in the minutes of said meeting.

Witness our official signatures and the seal of said corporati hereby affixed, attested by its Secretary, at Galveston Texas, this t 18th day of March, 1912.

H. J. RUNGE,
President of the Brush Electric Light and Power Company of Galveston.
KENNETH E. MASON,
Secretary of the Brush Electric Light and Power Company of Galveston.

Attest:
[SEAL.] KENNETH E. MASON,
Secretary of the Brush Electric Light and Power Company of Galveston.

I, John D. Kelley, Secretary of the Board of Commissioners the City of Galveston, do hereby certify that the above and fo going is a true and correct copy of all papers filed in this office April 15th, 1912, in connection with the acceptance by Bru
121 Electric Company of assignment of ordinance adopted the Board of Commissioners of the City of Galveston, March 16th, 1911, as the same appears on file in my office.

In testimony whereof, I have hereunto subscribed my official sig ture and affixed the corporate seal of the City of Galveston this 1 day of May, A. D. 1912.

[SEAL.] JOHN D. KELLEY,
Secretary Board of Commissioners of the City of Galveston.

Plaintiff introduced in evidence a certified copy of an extract fr the Minutes of the Board of Commissioners of the City of Galves evidencing the action of said Board of Commissioners with resp to the foregoing acceptance and obligation, et cetera, same bei as follows:

"A written acceptance from Brush Electric Company, a corporati incorporated under the laws of the State of Delaware, assignee of T Brush Electric Light and Power Company of Galveston agreeing and accepting and signifying its agreement to and acceptance o certain ordinance passed and adopted by the Board of Commissione of the City of Galveston, at a regular meeting of said board held the 16th day of March, A. D. 1911, and all the terms, conditi and obligations thereof, entitled:

" 'An Ordinance granting to The Brush Electric Light and Pow Company of Galveston the right, privilege and franchise to ow set, construct, maintain and operate poles, pin abutments, wires a other necessary fixtures along, in, over and upon the streets a alleys of the City of Galveston for the purpose of furnishing elect light and power,' and agreeing to and accepting the assignment said Brush Electric Company by said The Brush Electric Light a Power Company of Galveston of all the permission, rights, privile and franchises granted to said The Brush Electric Light and Pow

ompany of Galveston by said ordinance, which said assignment is dated March 18th, 1912, a substantial copy of which is attached to said communication from said Brush Electric Company and marked for identification "Exhibit A" and ade a part hereof.

And agreeing and obligating said Brush Electric Company to ithfully carry out and perform all the stipulations, conditions, rms and obligations imposed by said ordinance upon said The rush Electric Light and Power Company of Galveston;

Which said communication from said Brush Electric Company as deposited and filed in the office of the City Secretary of the City f Galveston on April 15th, 1912, was presented to the board, and pon motion duly seconded and unanimously adopted said communication was approved.'

I, John D. Kelley, Secretary of the Board of Commissioners of the ity of Galveston, do hereby certify that the above and foregoing is true and correct copy of an order adopted by the Board of Commissioners of the City of Galveston approving acceptance of assignent from The Brush Electric Light and Power Company of Galston to the Brush Electric Company, at a meeting held April 18th, 912, as the same appears on file and of record in my office.

In testimony whereof, I have hereunto subscribed by official signare and affixed the corporate seal of the City of Galveston this 13th y of May, A. D. 1912.

JOHN D. KELLEY,
Secretary Board of Commissioners of City of Galveston."

Plaintiff introduced in evidence an ordinance fixing the maxiim rate to be charged by plaintiff, Brush Electric Company, (and lveston Electric Company), for electricity furnished the City of lveston or to private consumers, passed and adopted by the Board Commissioners of the City of Galveston March 25, 1915, which linance is as follows:

n Ordinance Fixing the Maximum Rate to be Charged by the Galveston Electric Company and the Brush Electric Company for Electricity Furnished the City of Galveston or to the Private Consumers of said Corporation or Either of Them.

Whereas, the present charges fixed by the Galveston Electric mpany, and the Brush Electric Company for electricity furnished the City of Galveston and to the consumers of each of said corations is unreasonable and beyond what such electricity can be sonably supplied for; and, whereas, in granting a franchise to h of said corporations the City of Galveston reserved the right to the maximum rate of charges for electricity furnished by each of d corporations to its customers:

Wherefore, Be It Ordained by the Board of Commissioners of City of Galveston, as follows:

"Section 1. That in conformity with the rights and powers
served by the City of Galveston in granting franchises to the Galv
ton Electric Company, of Galveston, Texas, and the Brush Elect
Company of Galveston, Texas, the following schedule of rates
fixed and determined as the maximum rate to be charged by eith
the said Galveston Electric Company or the said Brush Elect
Company for electricity furnished to the City of Galveston or to
consumers of either of said corporations.

Lighting.

First	30 K. W. H. monthly at	12.7	cents.
Next	30 K. W. H. monthly at	11	cents.
Next	400 K. W. H. monthly at	10	cents.
Next	400 K. W. H. monthly at	9	cents.
Next	400 K. W. H. monthly at	7	cents.
Next	800 K. W. H. monthly at	6	cents.
All excess	K. W. H. monthly at	4	cents.

"A discount of five per cent will be allowed on the gross amou
of all bills paid within ten days from the date of billing, except
minimum bills which are net.

"Minimum charge on lighting customers is to be $1.00 per Ki
watt connected transformer load. All residences with not
124 exceed twenty outlets shall be billed at 75 cents minimum.

Power.

First	30 K. W. H. monthly at	10	cents Net.
Next	30 K. W. H. " at	9	cents.
Next	60 K. W. H. " at	8	cents.
Next	500 K. W. H. " at	6	cents.
Next	500 K. W. H. " at	5	cents.
Next	1,500 K. W. H. " at	4	cents.
All excess	K. W. H. " at	3.5	cents.

"A discount of five per cent will be allowed on the gross amou
of all bills paid within ten days from the date of billing.

Minimum charge of $1.00 per horsepower per month on up
five horsepower and fifty cents per horsepower for all addition
This includes heating devices, fans and all other apparatus cla
as power.

Sign and Window Lighting.

One cent (1¢) connected watt per month for 2,000 horsepo
yearly use. A discount of five per cent will be allowed on the gr
amount of all bills paid within ten days from the date of billing.

Wholesale Rate.

For customers having a half hour demand of 50 horsepower a
over 30 K. W. H. per K. W. demand monthly ten cents.

Next 2,000 K. W. H. per K. W. demand monthly 5 cents.

Next 20,000 K. W. H. per K. W. demand monthly 1.5 cents.
All K. W. hr. in excess 1 cent.
"A discount of five per cent will be allowed on the gross amount of bills paid within ten days from the date of billing.
"Minimum charge $1.00 per K. W. of demand per month on arly basis.

Battery Charging Off Peak.

First 200 K. W. H. monthly at 5 cents.
Next 300 K. W. H. monthly at 4.5 cents.
Next 400 K. W. H. monthly at 4 cents.
Next 600 K. W. H. monthly at 3.5 cents.
All excess of 1,500 K. W. H. monthly at 3 cents.

"A discount of five per cent will be allowed on the gross amount of bills paid within ten days from date of billing.

"Section 2. A discount of five per cent shall be allowed upon gross ount of all bills for electricity furnished to the City of Galveston cept upon such bills as may become due or grow out of the special ntract rate for primary current and secondary current hereinafter ovided for.

"Section 3. By the letters K. W. H. wherever the same appear in s ordinance is meant and intended to be meant the term Kilo tt hour and by the letters K. W. wherever the same appear in this inance is meant and intended to mean kilo watt.

"Section 4. Provided further that the rates to be charged the City Galveston for electricity furnished to said City of Galveston for mary current shall not exceed two and one-fourth cents per K. H. and for secondary current not to exceed three and fifteen e-hundredths (3.15¢) cents per K. W. H. and the City of Galves- shall have the privilege of selecting each month either the rate rates fixed in this section of this ordinance or of selecting the rate d for the standard wholesale rates as shown in Section 1 of this inance.

"Section 5. Whenever the City of Galveston, acting through its per officers, shall elect to receive electricity under the terms of the ular wholesale rate in determining the cost to said city of the elec- ity so used by it the monthly demand of the corporation provid- such electricity to the city shall be determined by dividing the l K. W. H. used during the month by the number of hours that street lamps are burned during the month.

"Section 6. The maximum rates fixed by this ordinance shall me effective on and after April 1st, 1915, and remain in full & and effect until this ordinance be repealed or amended by the rd of Commissioners of the City of Galveston.

"Section 7. It shall be unlawful for either the Galveston Electric mpany or the Brush Electric Company, or any person acting as

an officer or agent for either of said corporations for or
126 behalf of either of said corporations to charge, ask, dema
or receive any greater sum or charge for electricity than pr
vided for according to the rates fixed in this ordinance, and eith
of said corporations failing to observe the schedule of maxim
rates provided for in this ordinance shall be deemed to have f
feited the franchise or franchises granted to such corporation by t
City of Galveston and the Board of Commissioners shall thereup
declare the franchise or franchises of such offending corporation
be revoked and cancelled.

"Section 8. This ordinance shall take effect and be in full fo
from and after the date of its passage."

Plaintiff introduced in evidence an ordinance fixing the maxim
rate to be charged by plaintiff, Brush Electric Company (and G
veston Electric Company) for electricity furnished to private c
sumers and to the City of Galveston, passed and adopted by t
Board of Commissioners of the City of Galveston July 18, 19
said ordinance being as follows:

"An Ordinance fixing the maximum rate to be charged by the G
veston Electric Company and the Brush Electric Company
electricity furnished to the private consumers of said corporati
or either of them, and to the City of Galveston.

"Whereas, the present charges fixed by the Galveston Elec
Company and the Brush Electric Company for electricity furnis
to the consumers of each of the corporations is not sufficient to c
pensate said corporation for services so rendered, and whereas
granting a franchise to each of said corporations, the City of G
veston reserved the right to fix the maximum rate of charge for el
tricity furnished by each of the corporations to its customers.

"Therefore, be it ordained by the Board of Commissioners of t
City of Galveston, as follows, to-wit:

"Section 1. That in conformity with the rights and powers
served by the City of Galveston in granting franchises to the G
veston Electric Company, of Galveston, Texas, and the Bru
127 Electric Company, at Galveston, Texas, the following sch
ule of rates is fixed and determined as the maximum rat
be charged by either the said Galveston Electric Company or
said Brush Electric Company for electricity furnished to the C
of Galveston or to the consumers of either of said corporations.

Lighting.

First 30 K. W. H. monthly at 12.7 cents.
Next 30 K. W. H. monthly at 11 cents.
Next 400 K .W. H. monthly at 10 cents.
Next 400 K. W. H. monthly at 9 cents.
Next 400 K. W. H. monthly at 7 cents.
Next 800 K. W. H. monthly at 6 cents.
All excess K. W. H. monthly at 4 cents.

"A discount of five per cent will be allowed on gross amount of all bills paid within ten days from date of billing, except on minimum bills which are net.

"A net surcharge of 1½ cents per Kilowatt hour shall be added to all light bills.

"Minimum charge on lighting customers is to be $1.00 per Kilowatt connected transformer load. All residenced with not to exceed 30 outlets shall be billed at 75 cents minimum.

Power.

First 30 K. W. H. monthly at 10 cents Net.
Next 30 K. W. H. monthly at 9 cents.
Next 60 K. W. H. monthly at 8 cents.
Next 500 K. W. H. monthly at 6 cents.
Next 500 K. W. H. monthly at 5 cents.
Next 1,500 K. W. H. monthly at 4 cents.
All excess K. W. H. monthly at 3.5 cents.

"A discount of five per cent will be allowed on the gross amount of all bills paid within ten days from the date of billing.

"A net surcharge of 1¼ cents per Kilowatt hour shall be added to all power bills.

"Minimum charge of $1.00 per horsepower per month up to give (5) horsepower and 50 cents per horsepower for all additional. This includes heating devices, fans and all other apparatus classed as power.

Sign and Window Lighting.

"One cent (1¢) connected watt per month for 2,000 horsepower early use. A discount of five per cent will be allowed on the gross amount of all bills paid within ten days from the date of billing.

Wholesale Rate.

"For customers having a half hour demand of 50 horsepower and over 30 K. W. H. per K. W. demand monthly 10 cents.
Next 2,000 K. W. H. per K. W. monthly, 5 cents.
Next 20,000 K. W. H. per K. W. demand monthly 1.5 cents.
All K. W. Hour in excess 1 cent.

"A discount of five per cent will be allowed on the gross amount all bills paid within ten days from the date of billing.

"A net surcharge of 1¼ cents per kilowatt hour shall be added to all wholesale rates.

Minimum charge of $1.00 per K. W. of demand per month on early basis.

Battery Charging off Peak.

First 200 K. W. H. monthly at 5 cents.
Next 300 K. W. H. monthly at 4.5 cents.

Next 400 K. W. H. monthly at 4 cents.
Next 600 K. W. H. monthly at 3.5 cents.
All excess of 1,500 3 cents.

"A discount of five per cent will be allowed on the gross amount
all bills paid within ten days from date of billing.
"A net surcharge of one cent per Kilowatt hour shall be added
all battery charging off peak.

"Section 2. A discount of ten per cent shall be allowed on gro
amount of all bills for electricity furnished to the City
129 Galveston except upon such bills as may become due or gro
out of the special contract rate for primary current and s
ondary current hereinafter provided for.

"Section 3. By the letters K. W. H. wherever the same appear
this ordinance is meant and intended to be meant the term Ki
Watt hour and by the letters K. W. wherever the same appear in th
ordinance is meant and intended to mean Kilo Watt.

"Section 4. Provided further that the rates to be charged the Ci
of Galveston for electricity furnished to said City for primary curre
shall not exceed two and one-fourth cents per K. W. H. and f
secondary current not to exceed three and fifteen one-hundredt
(3.15¢) cents per K. W. H., and the City of Galveston shall have t
privilege of selecting each month either the rate or rates fixed
this Section of this ordinance or of selecting the rate fixed for t
standard wholesale rates as shown in Section 1 of this ordinan
The city not to be charged with the surcharge or wholesale rates.

"Section 5. A second discount of five per cent shall be allow
the City of Galveston upon the amount of bills for electrici
furnished to the City of Galveston which bills are based up
measurements taken at the power plant of the Brush Electric Co
pany, said discount being intended to cover the loss and wastage cu
rent in the course of distribution.

"Section 6. Whenever the City of Galveston, acting through
proper officers, shall elect to receive electricity under the terms
the regular wholesale rate in determining the cost to said city of t
electricity so used by it monthly demand by the corporation pr
viding such electricity, to the City shall be determined by dividi
the total K. W. H. used during the month.

"Section 7. The maximum rates fixed by this ordinance sh
become effective on and after July 18th, 1918, and remain in fu
force and effect until this ordinance be repealed or amended
the Board of Commissioners of the City of Galveston.

"Section 8. It shall be unlawful for either the Galveston Elect
Company or the Brush Electric Company, or any person acting
an officer or agent for either of said corporations for or
130 behalf of either of said corporations to charge, ask, dema
or receive any greater sum or charge for electricity than pr
vided for according to the rates fixed in this ordinance, and eith

of said corporations failing to observe the schedule of maximum rates provided for in this ordinance shall be deemed to have forfeited the franchise or franchises granted to such corporation by the City of Galveston and the Board of Commissioners shall thereupon declare the franchise or franchises of such offending corporation to be revoked and cancelled.

"Section 9. Before any of the terms of this ordinance may become effective the said Galveston Electric Company and the said Brush Electric Company shall signify their agreement to and acceptance of this ordinance and all of its terms, in writing, properly signed by the authorized representatives of each of said Companies and nothing in this ordinance shall be deemed to effect any franchise heretofore granted either of said corporations save and except in the matter of the prices and charges allowed herein to be fixed and maintained.

"Section 10. This ordinance shall be in force and effect from and after the date of its passage."

Plaintiff introduced in evidence an ordinance fixing the maximum rate to be charged by plaintiff Brush Electric Company (and Galveston Electric Company) for electricity furnished to private consumers and the City of Galveston, passed and adopted by the Board of Commissioners of the City of Galveston July 31, 1919, said ordinance being as follows:

"An Ordinance fixing the maximum rate to be charged by the Galveston Electric Company and the Brush Electric Company for electricity furnished to the private consumers of said corporation, or either of them, and to the City of Galveston.

"Whereas, the present charges fixed by the Galveston Electric Company and the Brush Electric Company for electricity furnished to the consumers of each of the corporations are excessive, and

"Whereas, in granting a franchise to each of said corporations, the City of Galveston reserves the right to fix the maximum rate of charge for electricity furnished by each of the corporations to its consumers:

131 "Therefore, be it ordained by the Board of Commissioners of the City of Galveston, as follows, to-wit:

Section 1. That in conformity with the rights and powers reserved by the City of Galveston, in granting franchises to the Galveston Electric Company of Galveston, Texas, and the Brush Electric Company of Galveston, Texas, the following schedule of rates is fixed and determined as the maximum rate to be charged by either of the said Galveston Electric Company or the said Brush Electric Company for electricity furnished to the City of Galveston or to the consumers of either of said corporations:

Lighting.

First 30 K. W. H. monthly at 12. 7 cents.
Next 30 K. W. H. monthly at 11 cents.

Next 400 K. W. H. monthly at 10 cents.
Next 400 K. W. H. monthly at 9 cents.
Next 400 K. W. H. monthly at 7 cents.
Next 800 K. W. H. monthly at 6 cents.
All excess K. W. H. monthly at 4 cents.

"A discount of ten per cent will be allowed on the gross amoun of all bills paid within ten days from date of billing, except o minimum bills which are net.

Minimum charge on lighting customers is to be $1.00 per Kil watt connected transformer load. All residences with not to exce 30 outlets shall be billed at 75 cents minimum.

Power.

First 30 K. W. H. monthly at 10 cents net.
Next 30 K. W. H. monthly at 9 cents.
Next 60 K. W. H. monthly at 6 cents.
Next 500 K. W. H. monthly at 5 cents.
Next 1,500 K. W. H. monthly at 4 cents.
All excess K .W. H. monthly at 3.5 cents.

"A discount of ten per cent will be allowed on the gross amount o all bills paid within ten days from the date of billing.

132 "Minimum charge of $1.00 per horsepower per month u to five (5) horsepower and fifty cents per horsepower for a additional. This includes heating devices, fans and all other ap paratus classed as power.

Sign and Window Lighting.

"One cent (1¢) connected watt per month for 2,000 hours yearl use. A discount of five per cent will be allowed on the gross amou of all bills paid within ten days from the date of billing.

Wholesale Rate.

"For customers having a half hour demand of 50 horsepow and over.

30 K. W. H. per K. W. demand monthly 10 cents.
Next 2,000 K. W. H. per K. W. demand monthly 5 cents.
Next 20,000 K. W. H. per K. W. demand monthly 5 cents.
All K. W. Hours in excess 1 cent.

"A discount of five per cent will be allowed on the gross amou of all bills paid within ten days from the date of billing.

"Minimum charge $1.00 per K. W. of demand per month o yearly basis.

"Battery Charging off Peak.

First 200 K. W. H. monthly at 5 cents.
Next 300 K. W. H. monthly at 4.5 cents.

Next 400 K. W. H. monthly at 4 cents.
Next 600 K. W. H. monthly at 3.5 cents.
All excess of 1,500 K. W. H. monthly at 3 cents.

"A discount of five per cent will be allowed on the gross amount of all bills paid within ten days from date of billing.

"Section 2. A discount of ten per cent shall be allowed upon gross amount of all bills for electricity furnished to the City of Galveston, over and in addition to the cash payment discount allowed to all customers, except upon such bills as may become due upon or grow out of the special contract rate for primary current and secondary current hereinafter provided for. This special discount being intended to cover transmission, transformations and investment losses borne by the city in purchasing its current measured at the company's switchboard.

133 "Section 3. By the letters K. W. H. wherever the same appears in this ordinance is meant and intended to be meant the term Kilo Watt hour and by the letters K. W. wherever the same appear in this ordinance is meant and intended to mean Kilo Watt.

"Section 4. Provided further that the rates to be charged the City of Galveston for electricity furnished to said City for primary current shall not exceed two and one-fourth cents per K. W. H. and for secondary current not to exceed three and fifteen hundredths (3.15¢) cents per K. W. H. and the City of Galveston shall have the privilege of selecting each month either the rate or rates of either of them fixed in this section of this ordinance or of selecting the rate fixed for the standard wholesale rates as shown in Section 1 of this ordinance, and in the event the rates or either of them mentioned in this section shall be selected the discounts provided for in Sections 1 and 2 shall still apply.

"Section 5. Whenever the City of Galveston, acting through its proper officers, shall elect to receive electricity under the terms of the regular wholesale rate in determining the cost to said City of the electricity so used by it monthly demand of the corporation providing such electricity to the City shall be determined by dividing the total K. W. H. used during the month by the number of hours that the street lamps are burned during the month.

"Section 6. Every customer shall have the right of election between any rates herein provided which may be applicable to the class of service he is demanding so that he may secure the lowest rate per kilowatt hour to which he might be entitled under any of the rates herein provided for.

"Section 7. The maximum rates fixed by this ordinance shall become effective on and after August 1st, 1919, and remain in full force and effect until this ordinance be repealed or amended by the Board of Commissioners of the City of Galveston.

"Section 8. It shall be unlawful for either the Galveston Electric Company or the Brush Electric Company, or any person acting as

an officer or agent for either of said corporations for and in behalf
either of said corporations to charge, ask, demand or receiv
134 any greater sum or charge for electricity than provided f
according to the rates fixed in this ordinance, and either
said corporations failing to observe the schedule of maximum rate
provided for in this ordinance shall be deemed to have forfeited th
franchise or franchises granted to such corporation by the City
Galveston and the Board of Commissioners shall thereupon declar
the franchise or franchises of such offending corporation to be re
voked and cancelled.

"Section 9. Nothing in this ordinance shall be deemed to affe
any franchise heretofore granted either of said corporations save an
except in the matter of the prices and charges allowed herein to b
fixed and maintained."

F. C. HAMILTON, a witness for the plaintiff, having been du
sworn testified as follows:

On direct examination:

My place of residence is in New Jersey. My office is at 24 Stat
Street, New York City. I am a consulting engineer, making
specialty of valuations for purchase and sale or the determination
rates, and for taxation of public utilities, and for the purpose
security issues or the purchase and sale of securities. I have been i
that business for myself since April 1917. Prior to that time I wa
in similar employment with Harold Almert of Chicago for approx
mately three years. Prior to that time for two and a half years
was assistant general manager of the Chicago Railway Company
Chicago; and for two years prior to that time I was with the accoun
ing firm of Arthur Young, a firm in the Monadnock Building,
Chicago, spending my time passing on public utilities with only o
exception.

As to the extent of my experience in the business I have describe
I was with Harold Elmert in charge of jobs for him and for m
self. I have made valuations of approximately $650,000,000 wor
of public utilities properties throughout the United States an
Canada. I have appeared before state public utility commissions
Colorado, Oklahoma, Kansas, Omaha, Illinois, Ohio, both commi
sions in New York, Connecticut, North Carolina, Georg
135 Mississippi, Maryland and Tennessee, and before the Hydr
Electric Commission in Canada, and in court in Canada an
the United States. Those cases have been for the issuance
securities, for permission of the Commission to issue securities, an
for the purpose of determining rates. I have done other work f
various companies on the determination of the value of their pro
erties, both physical property and its earning capacity, for purcha
and sale of the property itself, and for security outstanding again
that property.

My Connection with this particular case is that I am retained to handle all of the rate cases of those companies operated by Henry L. Doherty & Co., of which the Brush Electric Company is one, so I was therefore employed to make a valuation of this property and I have made that valuation. I am employed by others than Henry L. Doherty & Co. Henry L. Doherty & Co., is one of my clients.

I have here the results of my valuation of the Brush Electric Company property tabulated. This book now handed me is a complete inventory and appraisal of the property of the Brush Electric Company, and on page 1 the first six items constitute the items covered by an agreement between Mr. Elrod and myself, on the basis as of January 1, 1920, in amount $784,689.00. To those items have been added the usual overheads necessary to the completion of the property and to put it in operation.

At this point the plaintiff introduced in evidence in connection with the testimony of the witness Hamilton the agreement referred to by him, which is as follows:

Memorandum.

Galveston, Texas, August 25th, 1920.

We, the undersigned engineers for the Brush Electric Company and the City of Galveston, respectively, in the matter of the valuation of the properties of the Brush Electric Company, of Galveston, Texas, agree to the following valuations of said properties:

Cost of bare physical property, at present prices, undepreciated, as of January 1st, 1920, $784,689.00.

Cost of bare physical property, at averaged prewar prices, undepreciated, as of January 1st, 1920, 576,898.00.

It is understood that the above figures cover only the "bare-bones" of the properties, and do not include the following intangible, and other values:

Contractors' Expense and Profit.
Omissions and Contingencies.
Engineering and Supervision.
Organization and Legal Expense.
Taxes during Construction.
Working Capital.
Interest During Construction.
Materials and Supplies.
Going Value.

ANDREW J. FOSTER,
For the Brush Electric Company.
HENRY E. ELROD,
For the City of Galveston.

Witness:
L. E. BLANTON.

The witness Hamilton, resuming his testimony at this point, continued:

As I have said, the first six items shown on page 1 of the inventory and appraisal, or valuation, made by me have been agreed on by Mr. Elrod representing the defendants and myself representing the plaintiff, and they make up the $784,689.00 agreed cost of bare physical property at present prices, undepreciated, as of January 1, 1920, and the agreed cost of bare physical property at average pre-war prices undepreciated, as of January 1, 1920, $576,898.00, as reflected in the agreement which is introduced in evidence. Those six items are Building and Structures, Power Plant Equipment, Distribution System, General Office Equipment, and Utility Equipment. We have agreed on the bare labor and cost of those items at present prices as of January 1, 1920, and average pre-war prices as shown in said agreement.

The other items on page 1 are *are* Contractor's Expense and
137 Profit, Omissions and Contingencies, Engineering and Supervision, Organization and Legal Expenses, Taxes During Construction, Interest During Construction, all of which are items calling for expeditures during the construction of a property through a period such as would be necessary for this property; and to that we have added Working Capital and Material and Supplies. Working Capital covering the cash items necessary, and Material and Supplies the usual supplies that are carried from time to time to transact the business and operate the plant; and to that we have added the Going Concern Value, an item of intangible value, to the property itself, making a total cost of reproduction now for this property of $1,340,684.00, and giving a present value obtained by the deduction of the accrued depreciation to date of $1,177,314.00. These figures are based on prices as of January 1, 1920.

Pages 2 to 128 of said appraisal and inventory, or valuation, are detailed lists of these various items, giving the description, quantity and price that has been used for this purpose, all of which are included in the summary on page 1.

Page 129 of the appraisal and inventory, or valuation, shows the basis for the calculation of the overhead which has been added to the physical property and which is listed on said page 1 following said six items on which the agreement has been made.

The heading "Miscellaneous Expenses" on page 129 of the inventory and appraisal, or valuation, does not come under any item covered by the agreement that has been introduced in evidence. It includes all those items, and in addition it covers Contractor's Expense and Profit, Omissions and Contingencies, Engineering and Supervision, Organization and Legal Expenses, Interest and Taxes During Construction, and similar items which are overhead on the physical property and are items of expense in the construction of the property.

At this point plaintiff introduced in evidence the Inventory, Appraisal and Valuation consisting of pages 1 to 129 both inclusive, made by the witness Hamilton and referred to by him in his testimony, marked by the stenographer "No. 13" and certified by the Special Master as a part of the evidence introduced on the hearing

of this cause before him as "Exhibit No. 13;" and the same
138 will not be copied in the Statement of the Evidence, but the original will be certified and ordered sent up to the Supreme Court by the District Court and the judge thereof.

Resuming his testimony the witness Hamilton continued:

I now take up a condensed exhibit consisting of twelve pages, the first eleven pages of which have been agreed upon between me and Mr. Elrod representing the City.

By "Municipal sales" as used in this condensed exhibit is meant sales to the city of Galveston. Those sales for those four years are approximately the same for each year. The operating expenses for those four years increased from $153,762.89 for the year ending July 31, 1917, (Page 1 of the exhibit) as follows by years:

July 31, 1918..... $178,632.36
July 31, 1919..... $208,630.06
July 31, 1920..... $228,621.73

Some of the details showing where these increases occur are shown on later pages of the exhibit.

Referring to Page 1 of this exhibit, there are two main divisions, commercial and power. Under commercial come all of the lighting business, very largely residence and store lighting. Under power, comes those sales which go to industrial concerns. Under commercial are subdivisions of metered and flat rates; we have meters on nearly all of the commercial light business, but we have such things as signs which run a certain length of time each day or each year, on which a flat rate is given, and they are given at so much per month; under minimum bills there is a minimum prescribed for each bill, and included in that is the revenue which comes from those and which is not proportionate to the service to the commercial business. The allowances are self-explanatory. Under power is the same explanation of metered, flat rate, and minimum bills. Under forfeited discount, of course for the last three years the bills were rendered net, and forfeited discounts which were collected were added to the revenue for the year ending July 31st,
1917. However, forfeited discounts were deducted from the
139 revenue on the basis of the discount that was actually taken.
The bills were rendered gross and those people who availed themselves of the discount deducted it; there is that slight variance in the revenue of 1917, and the three years that followed that. I believe that is all my explanation with reference to page 1, with the exception of this revenue having been divided into total kilowatt hours sold, and in the lines immediately following those figures is shown the average rates of kilowatt hours, secured from each class of business. Page two is a detail of the operating expenses which appears in the next to the last line on page one of Operation and Maintenance. These items are divided into two main general divisions, operation and maintenance; the operating expenses are again

subdivided into Gross Production Operation, or cost of producing the current, which, after losses are deducted, is sold the various customers. Under steam power generation, varying from $57,000 approximately in 1917, to $106,000 approximately in 1919, the largest single item will be found to be fuel which will be shown in detail further on in this exhibit.

Conversion, as that word is used in the summary of operating expenses on page two of this exhibit, is power for converting direct current to alternating current or the reverse for such uses as may be needed, and is the cost at the plant; there is certain other conversion out on the distribution line that is represented only by a loss in the amount of current, and which is not included here but shown under losses.

The item of Purchased Power in said summary of operating expenses on page two occurring in the years 1918 and 1919 is [illegible] power the purchase of which was necessitated by a fire at the Electric Company's plant. The item of Steam Power Gene[illegible] in the summary of operating expenses on said page two in 1918 was $80,312.20, and in 1920, $81,848.55, and in 1919 $105,644.91. This difference in the cost of steam power generation was due to the difference of from twenty to thirty-five cents per barrel in the fuel used which will be shown later on as the monthly changes occur.

On Pages three, four, five and six, we have just gone into greater details of the operating expenses for the year ending June
140 31st, 1920, which is purely for reference, the totals on these pages agreeing with the totals that have been previously used. On page seven we have detailed the sale of current by classes of business in terms of kilowatt hours exactly as we detailed the revenue received from this same business on page one. In this connection, I should like to point out that in this company, due to the lack of industrial business in the City of Galveston, the total number of kilowatt hours sold for commercial purposes, which in our terminology means residences and store lighting business, is in excess of twenty-five per cent of the number of kilowatt hours sold to industrial consumers. The ordinary electric company in a city of this size would usually have its sales in terms of kilowatt hours divided 33⅓ per cent to residence and store lighting, and 66⅔ per cent to industrial business. In Galveston there were 1,700,000 kilowatt hours sold for power in 1920 and 2,100,000 kilowatt hours sold for commercial use, due to the lack of industrial business in the city of Galveston in proportion to its size—as compared, that is, with what we ordinarily find in a town of Galveston's size. The effect of such a condition as that is to raise the average rate, which is necessary for the reason that ordinary industrial consumers use their demand for an average of from six to eight hours a day, while the average domestic consumer uses his demand on an average of probably one and one-half or two hours a day. So that that equipment which is necessary to supply industrial business has an output of about four times as much per unit of the equipment as does the equipment that must be supplied for domestic uses. We always refer to that

terms of load factors, by which we mean the percentage that the actual output of the equipment bears to the total it would be possible to get out of the equipment. If we have a thousand kilowatt machine and turn out an average of five hundred kilowatt per hour, we say that we have a fifty per cent load factor; that five hundred average per hour may be made up of an average of a thousand one hour and nothing the next, but the fifty per cent load factor represents the percentage of the total business utilized of the load we do get. For that reason the long hour business is preferable, and much lower rate can be charges because of the lesser proportionate investment that is necessary to furnish commercial kilowatt hours.

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Where the first seventy kilowatt hours are sold for 12.7 cents, the next thirty at 11 cents, and the rate running on down as the quantity increases, that is commercial. Those downward steps in the rate as the number of kilowatt hours increases are in recognition of that economic production which is back of the proposition to which I have just referred. The result is that not only is the expense of operation greater in proportion per kilowatt hour where the power sales are less than the commercial sales, but the fixed charges are very much greater, because out of a thousand kilowatt machine you will get two hundred and fifty hours, where if it was devoted to power of *of* business you might get seven hundred and fifty hours without increasing your interest, depreciation or taxes within the least.

On Page eight is listed the total number of kilowatt hours generated and purchased, a record of the amount of that current which was used for the Brush Electric Company, and the losses which were unaccounted for, with the percentage that those losses bear to the total station output. Those losses were decidedly higher in 1918 and 1919 than they were in 1917, and I believe I am correct in stating that they were higher in 1917 than in 1916. There are several reasons for that, but among them are these: During the war the accounting department was obliged to let the young men that were experienced in their accounting work go to the army and to replace them quite often with girls or with inexperienced help of one kind and another, and errors like this were made. We have many meters which will read four hundred and sixty for instance, and for a proper record of that a constant of ten should be used which indicates that that four hundred and sixty should be multiplied by ten to have a correct record of the number of kilowatt hours used. With inexperienced help some bills were sent out without that multiplication being performed, with the result that we have been unable to collect the revenue that was lost through this improper billing. With our lack of help and inability to secure material we did not find outselves able to change the distribution system as rapidly as the business changed and losses occurred on some particular lines because

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the copper wire was not of sufficient capacity to carry the load economically; those things within the last year are being remedied rapidly. The accounting situation is straightened up, the copper situation has been completely straightened up, and the trans-

former situation where certain excessive losses have occurred in the past because of the transformer capacity and some particular circuit was in excess of the need, that has not quite been completely finished but will be within the next two or three months; with the result that those losses for the year 1920 with twenty-one per cent as compared for the year 1919, 26 per cent, and 1918, 27 per cent, are nearly, if not entirely, back to a normal loss for a system of this kind. This percentage is another item for the lack of power business effects us. Two or three big industrial consumers with a very little wire in proportion to the amount of current that they take might easily double our total sales without changing our losses proportionately. Higher wages show under this condition, so that the loss in terms of percentage must be taken into consideration together with the amount of business which the company does.

On Page nine is listed month by month the price which we paid for oil, and accounts for the change in the power costs referred to by the Court at an earlier time in the examination. At the present time our fuel cost is ninety cents per barrel under our contract which continues until March 31st, 1921. That fuel cost is equivalent to coal at about $3.30. The best bid we can get on coal is $200.00 a car and the best bid we can get on fuel oil at this time is from $3.25 to $3.50 a barrel; our operating expenses, if it was not for this contract we now have, in other words if we were forced to go out and buy in the open market, we would be forced to pay at least one hundred and twenty-five thousand dollars per year more than we are now, a change which will have to be met March 31st, 1921.

On Page ten are listed by months for the last four years the total amount of employees in the Brush Electric Company and the total salaries paid. The average pay per year for employees for 1917 was
nine hundred thirty-nine Dollars and thirty-seven cents; for
143 1918 about $1,018.00; for 1919, $1,182.00 and for 1920
$1,256.00 a steady increase per year for employees. All of the increases in expenses are not reflected in the salary paid per year because the hours have also shortened and the number of employes have gone respectively from forty-eight and forty-six in 1917 and 1918, respectively, to sixty in 1919 and sixty-four in 1920. These increases were distributed practically over the entire body of employees. They were practically all increased of course—the engineers, linemen and common laborers have increased a greater proportion than the so-called salaried employees, which is a misnomer by the way, it is made on that plan. These increases are coming steadily, first one and then another, and added to a lack of revenue the condition obtaining in the Brush Electric Company that has obtained in most every public utility company, that is, they are not in a position to bid on the open market for the best help, and they only succeed in keeping their people that they have had for many years; and when they have to go into the open market and cannot get the best because they cannot afford to pay the prices that are paid by the other industries. The larger portion of the increase has been distributed among a larger number of employees. A larger numb

of employees have gotten the increase, most of them you might say. The necessity for an increased number of employees has also resulted from a decrease in efficiency of the average employee. There has been a very little increase in the amount of businss done in 1920 over 1917 for instance, but there has been a very decided decrease in the efficiency of the average employee—we do not get the work per hour or per day and cannot insist on it under present conditions. In other words, in a study which I made in Detroit a short time ago where the increase in the hourly rate of linemen and groundmen in stringing pole lines, high tension transmission lines, the increase in the rate of wages over a period of two and one-half years had been one hundred and twelve per cent, while the increase in the cost per unit was something like 270 per cent; the increase in the cost per unit being a combination of the cost per unit and the hourly output.

Page eleven shows per month the number of customers of 144 the lines of the company, and the last line of figures is the average number of customers attached throughout the last year.

On Page twelve I have listed the kilowatt hours sold during the year ending July 31st, 1920. I have listed the kilowatt hours sold under heading which, under the new schedules, produces a reduction, first: metered commercial provides a reduction in the new schedule of the surcharge which we are now collecting of one and one-half cents per kilowatt hour, and applied to our sales of last year of 1,828,388 kilowatt hours would reduce our last year's revenue to $27,424.32. The reduction of metered power is one and one-quarter cents per kilowatt hour, and that would have resulted in a reduction of our revenue for last year of $15,345.60; these reductions of the one cent surcharge on metered battery charges would have amounted to $2,350.77, or a total reduction due to the elimination of the surcharge of $48,085.69. This reduction applied to the revenue would have left $247,924.63 from the total. The new schedule of rates provides that instead of the five per cent discount for prompt payment there shall be a ten per cent discount, so that I have determined the additional reduction of our revenue resulting from the increased discount would have been $13,048.66, which added to the reduction due to the elimination of the surcharge makes a total reduction of $61,134.35. Our gross revenue for the twelve months ending July 31st, 1920, which, by the way, was the largest we ever had, would have left us a gross revenue under the rates proposed by the city of $271,945.30. Our operating expenses were $228,621.73. Even with our favorable fuel contract, the company under the rates proposed by the city and our actual operating expenses and fuel prices of about one-third of what the present market now is, would have left us a net applicable to depreciation and return of $43,323.67. Our allowance for depreciation computed at five per cent of the physical property would have amounted to $44,966.10, which means that if we were to endeavor to set aside a reasonable allowance for depreciation out of last year's earnings we would lack $1,642.52 of having anything to apply as a return on our property. I have computed

that this property is at least entitled to earn, under the circumstanc
in Galveston, a ten per cent return, which would have amounted, o
the basis of my valuation, to $134,068.40. The propos
145 rate would therefore allow us $135,710.93 less than a fa
return (notwithstanding the fact that we have a fuel contra
which is worth at least a $100,000 to us in this year's operations
Out of that the interest would have to be paid and a dividend d
clared. In our operating expenses there are no interest charges in
cluded, nor any dividend nor return of any kind. Our inter
charges amount to about $63,250.00.

In answer to questions by the Special Master the witness co
tinued:

The figure $1,340,684 is not the value of the plaintiff's proper
as I estimate it to be now or on January 1, 1920; but it is the co
of reproduction now, and the depreciated value of this property
$1,177,314. There are two different price bases. The defendan
valuation is on the basis of pre-war prices, and mine is as of Janua
1, 1920.

In answer to questions by counsel for the plaintiff the witness co
tinued:

The figures as to details of net earnings on page 1 of this co
densed exhibit are at the rate allowed by the 1918 rate ordinance th
has been introduced in evidence, and the computation on page 12
said condensed exhibit is the revenue for twelve months ending Ja
31, 1920, computed at the rate allowed by the 1919 rate ordinan
which we are now protesting against.

At this point the plaintiff introduced in evidence the conden
twelve page exhibit referred to and testified about by the witness, t
original of which is marked "Exhibit No. 14" and a copy of whi
is as follows:

(Page 1.)

Brush Electric Company, Galveston, Texas.

Details of Earnings, Twelve Months Ending July 31.

	1917.	1918.	1919.	1920.
Gross Municipal Sales	$18,782.00	$19,261.11	$18,920.57	$17,680.69
Allowances	303.60	4.95	278.98	.....
Net Municipal Sales	18,478.40	19,256.16	18,641.59	17,680.69
Commercial:				
Metered	151,351.05	130,791.36	159,852.29	195,380.16
Flat Rate	17,460.70	14,863.10	12,983.60	15,381.83
Minimum Bills	7,199.60	7,227.58	6,866.94	5,908.63
Gross Commercial Sales	176,011.35	152,882.04	179,702.83	216,670.62
Allowances	2,870.65	1,626.15	3,339.18	845.62
Net Commercial Sales	173,140.70	151,255.89	176,363.65	215,825.00

Details of Earnings.—Continued.

	1917.	1918.	1919.	1920.
Power:				
Metered	76,858.55	59,167.21	77,427.19	100,630.16
Flat Rate	1,012.45	423.30	250.40	174.90
Minimum Bills	3,104.00	2,896.05	2,884.47	2,696.63
Gross Power Sales	80,975.00	62,486.56	80,562.06	103,501.69
Allowances	1,559.27	672.82	994.26	326.95
Net Power Sales	79,415.73	61,813.73	79,567.80	103,174.74
Total Net Sales	271,034.83	232,325.78	274,573.04	336,680.43
Forfeited Discount[xx]	R 3,776.32	3,623.75	2,088.89	2,399.22
Total	267,258.51	235,949.53	276,661.93	339,079.65
Deduction for Bad Debts	3,228.52	5,324.92	6,000.00	6,000.00
Gross Earnings from Operations	264,029.99	230,624.61	270,661.93	333,079.65
Operations and Maintenance	153,762.69	178,632.35	208,630.06	228,621.73
Net Earnings from Operation	110,267.30	51,992.26	62,031.87	104,457.92
% Operating Expenses To Gross Earnings	58.2	77.5	77.1	68.6
Net Municipal Sales per K. W. H. Sold ¢	2.1	2.1	2.1	1.8
Net Commercial Sales per K. W. H. Sold ¢	8.9	8.4	9.4	10.5
Net Power Sales per K. W. H. Sold ¢	4.8	4.8	5.8	6.0
Gross from Operation per K. W. H. Sold ¢	5.9	5.7	6.5	7.0
Operating Expenses per K. W. H. Sold ¢	3.4	4.4	5.0	4.8
Net from Operation per K. W. H. Sold ¢	2.5	1.3	1.5	2.2

(Page 2.)

Summary of Operating Expenses, 12 Months Ending July 31.

Operation:	1917.	1918.	1919.	1920.
Steam Power Generation	$56,953.23	$80,312.20	$105,644.91	$81,848.55
Conversion	587.59	893.71	1,141.87	981.42
Purchased Power	.....	3,637.60	2,781.00	.....
Gross Production Op.	57,540.82	84,843.51	109,567.78	82,829.97
Credits from other Operations	596.69	668.07	1,207.77	1,705.36
Net Production Op.	56,944.13	84,175.44	108,360.01	81,124.61
Customers' Dept. Op.	16,933.45	17,430.67	24,315.07	33,132.71
General Dept. Op.	51,410.24	52,718.07	52,926.36	64,329.76
Unclassified Op.	13,275.07	10,869.12	2,397.49	2,500.36
Total Operation	138,562.89	165,193.30	187,998.93	181,087.44

Summary of Operating Expenses.—Continued.

	1917.	1918.	1919.	1920.
Maintenance:				
Production Dept. Maint.	3,604.04	2,822.87	7,632.68	21,686.30
Distribution Dept. Maint.	4,518.07	4,430.57	5,754.79	7,425.21
Customers' Dept. Maint.	2,413.31	1,659.49	2,557.15	6,162.88
Utility Equip. Maint.	1,444.25	2,024.11	2,570.01	5,054.32
Unclassified Maint.	3,220.13	2,502.01	2,116.50	7,205.58
Total Maintenance	15,199.80	13,439.05	20,631.13	47,534.29
Total Operation and Maintenance	153,762.69	178,632.35	208,630.06	228,621.73
K. W. H. Sold	4,506,206	4,017,000	4,148,714	4,748,677
Total Operation per K. W. H. Sold ¢	3.07	4.11	4.53	3.81
Total Maintenance per K. W. H. Sold ¢	.34	.33	.50	1.00
Total Oper. & Maintenance per K. W. H. Sold ¢	3.41	4.44	5.03	4.81

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Details of Operation Expenses, Year Ending July 31st, 1920.

Boiler Operation.

Cost of Fuel	$60,857.96
Handling Fuel	41.25
Total Cost Boiler Fuel	60,899.21
Boiler Water	3,109.13
Miscellaneous Supplies	513.22
Boiler Room Labor	3,519.87
Total Boiler Operation	68,041.42

Steam Power Generation Operation.

Supplies and Expense	3,324.48
Generator Room Labor	8,342.64
Superintendency	2,140.00
Total Generator Operation	81,848.55
Purchased Power	.....

Conversion Operation.

Supplies and Expense:	
Operation Labor	981.42
Total Conversion Operation	981.42

Customers' Department Operation.

Office:	
Stationery & Printing	1,771.97
Miscellaneous Office Supplies and Expense	1,816.66
Reading Meters Labor	1,906.28
Customers' Bookkeeping Labor	3,138.08
Collecting Bills Labor	5,283.98
Application Department Labor	672.50
Delivering Bills Labor	352.50
Miscellaneous	2,831.49
Telephone Expense	970.25
Total Office	18,743.71
Shop:	
Incandescent Lamps Renewed	4.86
Orat. Work on Customers' Premises, Supplies & Expense	1,525.42
Miscellaneous Shop Supplies & Expense	3,293.35

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Grat. Work on Customers' Premises Labor	4,213
Resetting and Removing Meters Labor	1,563
Resetting and Removing Transformers Labor	471
Distribution Supervision Labor	1,868
Miscellaneous Shop Labor	726
Resetting and Removing Meters, Supplies and Expense	561
Resetting and Removing Transformers Supplies & Expense	124
Flat Rate Supplies and Expenses	35
Total Shop	14,389
Total Customers' Dept. Operation	$33,132

General Department Operation.

Executive Salaries	6,881
Clerical Salaries	3,575
Legal Expenses	1,978
Travelling Expenses	2,330
General Incidental Expenses	8,818
Taxes	14,442
Insurance	2,614
Rent	4,762
Injuries and Damages	3,600
New Business Expenses	14,024
Stores Dept. Supplies and Expense	207
Stores Dept. Labor	1,093
Total General Department Operation	64,329

Boiler Room Maintenance.

Boiler Maintenance Material	6,045
Boiler Room Auxiliaries Maintenance Material	1,817
Miscellaneous Repairs Material	94
Boiler Maintenance Labor	3,904
Boiler Room Auxiliaries Maintenance Labor	659
Miscellaneous Repairs Labor	7
Total Boiler Room Maintenance	12,529

Steam Power Generation Maintenance.

Repairs to Electrical Equipment Material	901
Repairs to Mechanical Equipment Material	2,570
Miscellaneous Repairs Material	774

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Repairs to Electrical Equipment Labor	767.74
Repairs to Mechanical Equipment Labor	2,462.95
Miscellaneous Repairs Labor	1,291.79
Total Generator Room Maintenance	8,769.67
Boiler Room Maintenance	12,529.85
Total Steam Power Generator Maintenance	21,299.52

Conversation Maintenance.

Conversation Maintenance Material	336.78
Conversion Maintenance Labor	50.00
Total Conversion Maintenance	386.78

Distribution Department Maintenance.

Overhead Wire	568.61
Poles, Cross Arms, etc.	2,786.26
Lines & Poles Maintenance Labor	4,070.34
Total Distribution Dept. Maintenance	7,425.21

Customers' Department Maintenance.

Office:

Repairs to office equipment Material	18.57

Shop:

Meter Repairs & Testing Material	3,620.76
Repairs to Transformers Material	324.81
Miscellaneous Shop Repairs Material	354.01
Meter Repairs & Testing Labor	1,844.73
Miscellaneous Shop Repairs Labor	.....
Total Customers' Dept. Maintenance	6,162.88

Utility Equipment Maintenance.

Repairs to Gasoline Cars Material	4,037.17
Garage & Equipment Maintenance Labor	1,017.15
Total Utility Equipment Maintenance	5,054.32

Unclassified Expenses.

Storm Expense	2,200.
Valuation Expense	200.
Gratis Wage	100.
Total Unclassified Operation	2,500.
Condensed Meters	750.
Condensed Transformers	75.

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Fire Expense	6,379.
Total Unclassified Maintenance	7,205.
Total Unclassified Expenses	9,705.
Credits from Other Operations	1,705.

Represents cost of Current Charged to Depts. where used.

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Details of Sales, in K. W. H., 12 Months Ending July 31.

	1917.	1918.	1919.	1920.
Municipal	887,378	934,225	901,484	898,636
Commercial:				
Metered	1,615,872	1,484,331	1,611,818	1,828,288
Flat Rare	297,545	270,810	225,067	269,309
Minimum Bills	43,694	43,645	40,188	38,380
Total Commercial	1,957,111	1,798,786	1,877,073	2,135,977
Power:				
Metered	1,630,685	1,263,384	1,351,716	1,699,225
Flat Rate	9,368	4,575	2,735	2,573
Minimum Bills	21,664	16,030	15,706	14,266
Total Power	1,661,717	1,283,989	1,370,157	1,716,564
Total Sales	4,506,206	4,017,000	4,148,714	4,748,677
% Inc. Over Previous Year	3.4	R. 10.9	3.3	14.5
% Inc. 1920 over	5.4	18.2	14.5	....

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Generation Data in K. W. H., 12 Months Ending July 31.

	1917.	1918.	1919.	1920.
Steam Power Generation	6,533,850	5,904,705	6,073,950	6,612,350
Purchased Current	.....	161,135	92,700	.....
Total Delivered to Switchboard	6,533,850	6,065,840	6,166,650	6,612,350
Used in Production Dept	497,746	484,543	454,436	455,771
Net Station Output	6,036,104	5,581,297	5,712,214	6,156,579
Used by Co. Outside Station	59,957	57,571	60,096	110,746
Sales and Losses	5,976,147	5,523,726	5,652,118	6,045,833
Sales	4,506,206	4,017,000	4,145,714	4,748,677
Losses	1,469,941	1,506,726	1,503,404	1,297,156
% of Station Output	24.35	27.00	26.32	21.07

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Oil Cost Per Barrel.

	1917.	1918.	1919.	1920.
Aug.	.75	.75	1.60	1.10
Sept.	.75	.75	1.60	1.10
Oct.	.75	.75	1.60	1.10
Nov.	.75	.75	1.60	1.10
Dec.	.75	.75	1.60	1.10
Jan.	.75	1.60	1.75	1.10
Feb.	.75	1.60	1.75	1.10
Mar.	.75	1.60	1.75	1.10
April	.75	1.60	1.10	.90
May	.75	1.60	1.10	.90
June	.75	1.60	1.10	.90
July	.75	1.60	1.10	.90

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Pay Roll, 12 Months Ending July 31st.

	1917.		1918.	
	No. employees.		No. employees.	
Aug.	45	$3,704.60	43	$3,499.61
Sept.	44	3,547.50	42	3,612.55
Oct.	44	3,616.25	41	3,754.06
Nov.	43	3,359.45	48	3,699.86
Dec.	47	3,581.75	41	3,611.26
Jan.	50	3,914.35	43	3,747.43
Feb.	56	3,910.90	42	3,602.20
Mar.	50	3,922.52	38	3,459.19
April	47	3,944.09	43	3,852.60
May	45	4,022.06	45	4,081.01
June	52	3,814.52	71	5,631.27
July	49	3,750.28	53	4,294.90
Total	572	45,088.27	550	46,845.94
Aver. per Mo.	48	3,757.36	46	3,903.83
Aver. per Employe per Mo.	..	78.28	..	84.87
Aver. per Employe per year	..	939.34	..	1,018.39

	1919.		1920.	
	No. employees.		No. employees.	
Aug.	48	$5,776.75	65	$5,671.57
Sept.	67	6,087.32	65	6,303.56
Oct.	59	5,495.29	63	6,399.33
Nov.	54	5,097.04	60	6,481.19
Dec.	64	5,723.27	61	6,671.67
Jan.	58	5,726.80	68	6,931.67
Feb.	56	5,610.41	62	6,016.38
Mar.	60	5,796.40	65	6,347.99
April	63	6,136.82	66	7,220.41
May	64	6,446.77	65	7,336.68
June	65	6,789.30	66	7,590.48
July	62	6,237.08	66	7,454.31
Total	720	70,923.25	772	80,425.24
Aver. per Mo.	60	5,910.27	64	6,702.10
Aver. per Employee per Mo.	..	98.50	..	104.72
Aver. per Employee per year	..	1,182.06	..	1,256.64

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Number of Customers.

Month.	1914.	1915	1916.	1917.	1918.	1919.	1920.
August	3,067	3,822	4,360	4,868	4,278	4,208	4,597
September	3,126	3,859	4,460	4,843	4,250	4,184	4,547
October	3,203	3,879	4,535	4,847	4,222	4,177	4,600
November	3,244	3,922	4,610	4,865	4,198	4,195	4,627
December	3,267	3,989	4,612	4,844	4,242	4,197	4,689
January	3,303	4,006	4,624	4,848	4,225	4,225	4,747
February	3,333	3,855	4,644	4,860	4,176	4,292	4,790
March	3,400	3,940	4,701	4,848	4,215	4,364	4,844
April	3,448	4,087	4,740	4,397	4,231	4,431	4,397
May	3,565	4,245	4,800	4,414	4,259	4,481	4,960
June	3,684	4,351	4,850	4,411	4,237	4,526	4,997
July	3,782	4,368	4,859	4,367	4,234	4,553	5,046
	40,422	48,323	55,795	56,412	50,767	51,833	57,341
Average	3,369	4,027	4,650	4,701	4,231	4,319	4,778

Statement Showing Decrease in Gross Revenue for 12 Months Ending July 31, 1920, is Present Surcharge Were Eliminated and 10% Discount Were Applied to Commercial and Power K. W. H.'s Sold During This Period and Resultant Decrease of Earnings from Operation and Deficit of Fair Return.

Metered Commercial, 1,828,288 K. W. H. @ 1½¢		$27,424.32
Metered Power, 1,467,648 K. W. H. @ 1¼¢		18,345.60
Metered Battery Charging, 231,577 K. W. H. @ 1¢		2,315.77
Decrease in Gross Revenue Due to Elimination of Surcharge		$48,085.69
Metered Commercial Gross	$195,380.16	
Metered Power Gross	100,630.16	
	296,010.32	
Deduct Surcharge	48,085.69	
Discounted Revenue, 95% =	247,924.63	
100% =	260,973.30	
10% =	26,097.33	
5% =	13,048.66	
Decrease in Gross Revenue Due to Additional Discount of 5% on Metered Commercial & Power Business		13,048.66
Decrease in Revenue Due to Additional Discount and Elimination of Surcharge		61,134.35
Actual Gross Revenue 12 Months Ending July 31, 1920		333,079.65
Deduct Decrease as Shown Above		61,134.35
Gross Revenue Under Rates Proposed by City		271,945.30

Statement Showing Decrease in Gross Revenue.—Continued.

Operating Expenses for 12 Months Ending July 31, 1920	228,621.73
Net from Operation Under Rates Proposed by City	43,323.57
Allowance for Depreciation	44,966.10
Deficit from Operation	*1,642.53
Fair Return	134,068.40
Deficit of Fair Return	*135,710.93

[*Red in copy.]

158 In answer to questions by the Special Master the witness continued:

In explanation of the difference between depreciated and undepreciated values, I at first estimated the cost of reproduction now, as of the present date, of the equipment which we found on the property, then I have deducted from that amount the percentage that property has through age and use lost a (in) proportion to its newness. In other words, the first day a pole goes into use a certain small portion of its life has disappeared. Its efficiency as a pole may not change for the next fifteen years, but a percentage of its newness is gone, and that is what I have deducted to represent the accrued depreciation. It is impossible to keep a plant in one hundred per cent of newness; it would be extravagant to replace that pole a week after it was put up, and probably be extravagant to replace it a year after it was put in; of course, a part of its life has gone, not to the point where it affects its efficiency; and this deduction of depreciation is a deduction to correspond with that percentage of life that has disappeared in use. In arriving at that I don't take up each item of material and find when it was put in and the time it has been in service and calculate it—that is not the way I arrive at it. I get at that in this way: At the time my men made a detailed inventory of this property they made an inventory of the property and determined from that inspection and from the history of its life which they had, and from the efficiency which our operating report shows it still had; the amount of accrued depreciation; for instance, a pole, its depreciation would depend entirely upon the inspection; a generating unit would be determined upon the basis of the individual, but largely on the basis of its output of kilowatt hours in the proportion to the steam used, for instance, its efficiency. For others, it is done in exactly the same manner, I don't have a record of when a pole, for example, was put in. I don't believe that that record would be available except on a small portion of poles that have been installed lately. I do have a record of when a piece of machinery goes in and the time it has been used. That enters into my estimate of depreciation. The method I have described is the method by which this depreciation was determined and it is shown in these sheets

159 (referring to Exhibit 13 previously introduced in evidence) item by item. Some of them are 85% good and some are 50% good. (The detailed exhibit shows per cent condition of the items of property ranging from 15% to 100%). There is represented in my estimate of the percentage of depreciation the physical condition of the property and what I would determine from the record of its efficiency.

In answer to questions by counsel for plaintiff, the witness continued:

A ten per cent rate of return is necessary in this case. At least that amount to make the investment at all attractive. Galveston has been unfortunate in actually having the storm, and in the second place in having the reputation for having the storm. The risk in

connection with the investment is not only there, but is wide
known, and to induce people to put their money in for the installat
of equipment, ten per cent would be necessary, at the present mome
and for the last six months it would have been impossible to secu
money for the investment in Galveston for any such project, but I a
not basing this upon any abnormal condition as has maintained f
the last six months. The Pennsylvania Railroad has had to pay a lit
better than seven per cent for money for their operations, and th
are generally considered next to the United States in the way of t
value of bonds. The actual risk of the exposure of the property
storm is a present one and it has been repeated several times sin
1900. The climate at Galveston and its effect upon the equipme
property and plant of the plaintiff does not effect the rate of retur
but it does have an effect upon the amount of depreciation that m
be allowed on the property. The average rate of depreciation in t
property must be much higher than on an inland property, and oth
average properties, because of the fact of the effect of the salt air up
the steel and copper. I am not talking now about depreciation fr
the value of the property for the purpose of obtaining a rate bas
but about the average annual allowance that must be maintained
keep it up. I have calculated, and we are claiming in this case, t
ordinary five per cent for that allowance and I have not put in a
excessive claim for that. I mean five per cent on the physi
160 property exclusive of the real estate. The plaintiff is now
building a steel stack at the present time. The average s
stack will average a life in Galveston of five or six years, while if
was in Kansas City it would have a life of fifteen or sixteen yea
I mean any inland town. I just took Kansas City as being aw
from the effect of the salt air.

I have testified that the figures as to details of net earnings
page 1 of the condensed exhibit (No. 14) that was just now i
troduced in evidence are at the rate allowed by the 1918 r
ordinance. That is correct with the exception of the period duri
which there was in effect the verbal agreement between the Bru
Electric Company and the city representatives which allowed the d
ductions of ten per cent rather than the discount which t
ordinance provided during that period, and of course those figur
during that period are based on that ten per cent discount. That w
a verbal agreement between the Brush Electric Company and t
City, and those discounts are all accounted for and allowed in t
item of discount shown on page 1 of said condensed exhibit. A
the figures showing earnings for the years ending July 31, 1917, a
1918, on said page 1, are based on the rates prescribed in the 19
ordinance up to the time that the 1918 ordinance was passed.

Referring now to the first six items on page 1 of Exhibit 13 th
has been introduced in evidence, Mr. Elrod and I have agreed up
the cost of reproduction, only, as of January 1, 1920, of those ite
which are Real Estate, Buildings and Structures, Power Plant, D
tribution System, General Office Equipment, and Utility Equipme

On page 129 of Exhibit 13 are shown the methods by which t

ems of overhead added to the bare physical property covered by he agreement between myself and Mr. Elrod were computed.

Omissions and Contingencies in the amount of $36,140.00 is 5% f the three items of value for buildings and structures, power plant uipment and distribution system. I have found in many com- risons which I have made of the inventoreis of identical prop- ties made by different engineers that in each inventory there ould be included items in existence which were omitted by each of the other inventories. It is not humanly possible, without 61 an undue expenditure of time and money to make an in- ventory of property consisting of as many diverse items as e included in an electric plant without overlooking some. Under e division of this heading called Contingencies are included the ems of cost due to delays in receiving equipment and material and e necessity of holding men awaiting the receipt of those items, hich are always to be considered in an estimate of cost of re- oduction and are always included in any contractor's bid on a rticular job. It also covers the necessity, for instance, of pumping any excavation work and various other items of expense which nnot be foreseen when the contractor makes his bid and which do t appear on an inspection of the property by individuals mak- g an inventory after its completion. I have found by the com- risons that I have made in the past that it is necessary to add to y individual inventory at least 5% to cover the foregoing items.

Engineering and Supervision—Engineering and Supervision in mount of $37,947.00 equals 5% on the cost to reproduce the items buildings and structures, power plant equipment, distribution stem, including the omissions and contingencies referred to eviously. I have used 5% because of the fact that that is the ual fee charged by contracting engineers to design a plant and stribution system, and supervise the building of that system and e installation of the necessary equipment. It covers the cost of awing all of the plans, the inspection of the material upon its re- pt to see that its quality corresponds with the specifications in the rchase contracts, and the testing out of the various operating units. some cases rather than a percentage the supervising engineer takes e contract for the work above mentioned on a per diem basis. For en years Sergeant & Lundy of Chicago supervised the construction the Common-wealth-Edison Company in Chicago on such a basis. checked these expenditures against the total cost of the property, hich was installed under their supervision, and on this per diem con- ct their total fees and expenses amounted to approximately 7½%. r these reasons I have adopted 5% as the minimum fee that would charged by an experienced and competent engineer.

62 Insurance During Construction.—This item covers the cost of the insurance that appears on the face of the bills for ge equipment of one-fourth of 1% charged by such companies the General Electric Company and the Westinghouse Electric & nufacturing Company to cover the risk during shipment. It o includes the liability insurance on all of the labor engaged in

the construction of the different portions of the property, togeth with fidelity insurance which the company or contractor must p on employes handling payrolls and the insurance which the co pany or contractor must pay on the stores of materials and suppl which are carried during the construction period. These ite have been found to amount in the construction of an electric pla to approximately 1% of the cost of the plant, on checks of vari actual contracts let under conditions where this item could be ac rately determined.

Administration and Legal Expenses.—An item of $16,676.0 which represented 2% of the cost of the foregoing items, has be allowed for administration and legal expenses. This is to co the salaries of the general officers of the company and such cle as are necessary during the construction period, together with t legal expenses in connection with the securing of the franchise, t incorporation of the company, the issuance of its securities and t securing of such permits as may be necessary, and the inspecti of titles and supervision of transfers of real estate.

Taxes During Construction.—An amount of $6,670.00 has be included on the basis of eight-tenths of 1% for the cost of the fo going item. This is based on the assumption that the value of t property goes from zero to 100% of the cost of the completed pla and that the taxes would be paid on an average of one-half of 10 of the value throughout the actual construction period.

Preliminary Operation and Adaptation.—An amount of one-ha of 1% of the cost of buildings and structures, power plant, equi ment and distribution system, together with the omissions and co tingencies and the necessary engineering and supervision of th items has been included in the amount of $3,984.00. T
163 covers the cost of the preliminary operation of boilers a generator equipment to determine their ability to carry st efficiency in carrying the load for which they were designed a for which the specifications call. It covers the cost of the fuel a water used, and the salaries of the employes in making these te which always are made before a machine is put in continu operation. It covers the preliminary cost of operation during t period in which current is generated to test out the distributi lines of the company and the transformer equipment on those lin prior to the delivery of current to the customers. All of these ope tions come in natural sequence in the building of a plant and rep sent a cost of that plant.

Development Expense.—In each company's operations, there a necessitated activities on the part of the operators to maintain ea year the number of customers which they had at the beginning the year. There are always losses of customers due to removal discontinuance of the use of the service. The cost of securing ad tional customers includes solicitation, the signing of the contra the inspection of the customer's premises to determine the size the meter, the opening of accounts on the books of the compa and various other expenses in connection with that work. The co

pany is entitled to a value for those customers which it has attached, and in the ordinary operation should charge to operating expense pro rata the expense of securing enough customers to make up for their normal lossess and to capital account the pro rata cost of securing whatever additional customers are added to the lines of the company each year. These allowances have been made in this case on the basis of a detailed study of the costs in various plants with which I am familiar. Allowances have been granted in determination of value by Public Utilities Commissions carrying from $7.00 to $15.00 per customers. I have here included on the basis of my judgment, an amount of $10.00 per customer, which applied to the number of customers now on the line gives the development expense as $45,530.00.

Interest During Construction.—I have included $27,445.00 or 3% of the cost of reproduction of the foregoing items as a proper allowance for interest during construction on the assumption
164 that throughout the year's construction period the value of the property would go from zero to 100% of the cost of reproduction and, therefore, 3% of the total cost for one year, or 6% of one-half of the total cost for one year would be a fair and reasonable allowance for this interest item.

Working Capital.—An item of $34,772.00 has been included as a reasonable allowance for working capital. This was determined by taking one-sixth of last year's cost of operation and maintenance. The company must pay for its cost of operation, including payrolls, prior to the time when it receives the revenue from the sale of current generated through these expenditures. The company, providing it is to secure a reasonable credit standing, must carry an adequate bank balance and this working capital composed of cash on hand and expenses paid in advance of the collections from sales of current usually average about the amount of two months' operation and maintenance. I have added to this the item of oil stock in amount $286.00, which is the actual inventory of that stock as of January 1, 1920.

Materials and Supplies.—Materials and supplies in amount of $32,697.00, I have included on the basis of an actual inventory of all the materials and supplies on hand as of January 1, 1920. There is included in this item all repair parts, wire stock and appliances which the company does and must carry to transact its business in a normal manner.

Going Concern Value.—This item in amount $187,016.00, I have determined as the value attaching to the business (because of its being a going concern with an established income) over and above the value of the physical items. I have determined this amount by the Alvord method. This method is based on a determination of the cost of reproduction of an identical plant and of the sacrifice of income which an investor would make providing he was to construct an identical plant and have the possession of the income postponed until the end of that construction period, instead of entering into the possession of an existing plant with its established revenues.

I have determined this value exactly as any purchaser of
165 an established business determines the additional amount
that he can afford to pay over and above the value of the
physical property which he must buy, to secure an already estab-
lished business, the only exception being that there is included in
this determination no costs for meeting competition such as would
be included in the case of an individual buying a dry-goods store
or some other business where he would have to meet competition.

(No cross examination.)

It was agreed in open court that the charter of the city of Galves-
ton as contained in Gammell's Laws of Texas, Volume 12, pages
262 to 304 both inclusive, Special Laws of Texas, passed by the
Twenty-eighth Legislature at its regular session convened January
13, 1903, and adjourned April 1, 1903, and all amendments thereto
or thereof as contained in said Gammell's Laws, and any volume
thereof shall be considered as in evidence in this case, said charter
and amendments being Acts of the Legislature of the State of Texas.

Plaintiff rested.

166 HENRY E. ELROD, a witness for the defendants, having been
first duly sworn testified as follows:

On direct examination:

My residence is Dallas, Texas. I am a consulting engineer and
I do business under the name of Henry Exall Elrod Company, Gen-
eral and Consulting Engineers, engaged in general municipal en-
gineering and property valuation. I have been engaged in that
business nine years. My experience antedates my period of work as
a consulting engineer. In 1892 I was employed by the Columbus
Light and Power Company consecutively as roustabout, fireman,
lineman, dynamo tender, plant manager, in which positions I re-
mained until 1898, when I attended the Agricultural and Mechan-
ical College of Texas, where I remained four years. During my stay
there I operated the electric light and water works plant there every
night during the scholastic session. After finishing my technical
education I was employed as engineer by the Mosher Manufacturing
Company of Dallas to operate a structural business. I remained in
that business as engineer a year and a half, when I accepted the gen-
eral management of the Bartlett Steel Company of Joplin, Missouri.
While in that capacity the company's plant was destroyed by fire
and I re-designed it and supervised the construction of it, together
with all electric equipment operating the various machinery. In
1907 I returned to Texas to promote and manage the Houston Struc-
tural Steel Company, where I remained four years. I designed and
supervised the construction of the plant including all electrical and
other equipment, and I don't mean by saying I designed the elec-
trical equipment that that covers the design of individual machines
or dynamos. In 1910 I resigned the management of that business

and the first of the following year, I accepted the general management of the Union Iron Works of Houston, where I remained a little more than a year in my capacity as manager. I also prepared designs for such machinery as the company manufactured, booms and well-drilling tools. In 1912, I moved to Dallas, and began the practice of my profession as a Consulting Engineer, just completing the nine years this month. I wish to correct that, just completing the eight years this month, and I originally said that I had been
167 practicing nine years. That should be eight. During the period of my practice of my profession I have, together with my associates, served more than one hundred municipalities in professional capacity, among the more important engineering commissions we performed the handling of the Houston Light, Telephone and Gas rate cases, report on the properties and operations of the Jacksonville, Florida, municipal power plant, and electric light cases at Amarillo, San Angelo, and other places, public utility appraisals at Tyler, Taylor and Sherman and others, design and supervision of construction of two hundred thousand dollar water works plant at Tyler, including four mile transmission line, electrical pumping equipment, etc., design of a five hundred thousand electric light and water works plant for San Angelo, and other important engineering reports to the cities of Waco, Houston, etc., design and supervision of construction and numerous smaller water works plants, electric light, sewer systems, street railways, bridges and other steel and concrete structures. At this time we are building an electric power plant and pumping station for the city of Big Springs, including a transmission line for the operation of a remote water pumping plant with remote electrical control. At this time we are designing a dam for the city of Cisco that costs approximately a million dollars, electrical interurban railway connecting Gainesville and Sherman, costing a million, two hundred and fifty thousand dollars, and other works involving expenditures of between eight and ten millions of dollars. I have testified as an expert witness in proceedings involving the fixing of rates by commissions or courts, as in the case of City of Amarillo against the City Light and Water Company (a Doherty interest), and the case of the City of Angelo. I don't call to mind any other cases.

I was employed by the City of Galveston to make an investigation and appraisal of the property of the Brush Electric Company of Galveston, and commenced that employment March 12, 1920. I was engaged about two and one-half months making that investigation and appraisal, and have now completed my investigation and made a report to the Board of Commissioners of the result of
168 it. That report is included in the volume which I now have in my possession.

Mr. Hamilton (the expert for the Company) and I have agreed on certain figures contained in a written agreement signed by M. J. Foster (an engineer connected with Mr. Hamilton's organization) and myself dated August 25, 1920. It is agreed that the cost of the bare physical property, at average pre-war prices, undepreciated as

of January 1, 1920, is $576,898.00. That figure does not includ any overhead; it only includes the bare-bones of the property.

In making my appraisal and investigation I adopted more tha one method. I used first what is commonly known as the historic or actual cost method of appraisal as described and set forth in th exhibit and report which I have made to the City (contained in th bound volume marked on the outside "Report of the Properties an Operations of the Brush Electric Company to the City of Galveston Texas, Part One"). That contains the result of my investigatio and appraisal upon the basis that I have just mentioned. Th other basis I used is what is commonly known as the reproductio method of valuation. The method used, however, is not the repr duction, or not the production of the hypothetical plant, which tak the place of the present plant, but is the valuation of the vario component elements of the present property and valued as near as possible in accordance with the history of the assembling of th component parts of the property.

In answer to questions by the Special Master the witness con tinued:

By "history of the assembling of the component parts" I mean th date when the different parts were purchased or acquired and th manner and method as nearly as possible to be obtained. I ob tained the history of the company and the assembling of the plan from the records of the Company. I might mention one particula instance in this connection to illustrate the point. In 1907, if I remember correctly, the Company bought a 500 K. W. Turbo-ge erator, and later in the year finding it was inadequate, or for som reason that I don't know, they exchanged it for a 750 K. W. Turb generator, and paid the difference that amounted to a net di
169 ference of $4,730.00 if I remember correctly; but the figure don't count—they make the total cost of the 750 K. W. ge erator about $27,000.00. That total cost was several thousand do lars more than the new 750 K. W. generator would have cost at th time. And without going through the history of the erection of th various component elements one would naturally apply the price o the 750 K. W. generator at that time as being the value, say it wa $25,000.00, then the Company would have suffered in the valuatio through the lack of an historical study of the construction of th plant at the time it was constructed.

The historical cost, or actual cost, of the plant is $570,000.0 The actual cost less depreciation is $510,000.00 in round figure The reproduction cost, based on pre-war values, less depreciation, $427,112.00.

Resuming his testimony in answer to questions by counsel for de fendants, the witness continued:

I have made a valuation and report as on the second metho adopted by me, and that has been submitted to the City.

The difference in the value at cost and the reproduction value a pre-war prices is accounted for in this way: The actual cost is base upon the records of the expenditures made by the company and in cludes every item of expenditure charged to the capital accoun

The reproduction method, the results are arrived at through the count of the visible properties with the addition of such overheads as are known to exist, estimated at rates which are either well established or in common use. At best, only estimates, however; consequently not accurate. The records of the company reflect every item of expenditure accurately as it was made. The reproduction estimates are based upon calculations which may or may not be accurate. The actual cost results take into consideration superseded equipment to a certain extent, while the count method does not do so. For instance, if the company had purchased a motor as it did in 1907 for $1,188.00 and abandoned the use of that motor, that $1,188.00 is still reflected on their books as a part of their plant value. In making my reproduction estimate I have disregarded that motor as it has been abandoned. Consequently it does
170 not appear in my figures. And so on through the number of items which may have caused the difference, such as the cost of poles. The poles have been replaced. Still the cost of those poles has been set upon their books, and may or may not have been charged off when removed. Cost and count just covered those poles which are actually in existence at this time. Whatever expenditures the Company original- made for those poles is reflected by their record. If any of them have gone out of service and not been charged off, the original cost still appears, but in counting them and applying the cost only such charge or only such amounts as result from the actual count is taken into consideration. There is, of course, a consequent difference. In making my estimates of value based upon cost of reproduction at pre-war prices the last year's figures used was 1916. Where the actual cost of various articles was obtainable they were used with additions to make them average, rather than actual cost, to take care of any contingency which might have made the value at the time of the purchase of the machine more than they actually paid for it. Prices averaged over a period of ten years prior to 1916 and including 1916 were used. My estimate of value based upon actual cost includes the actual cost of material and labor during the war period. All equipment purchased and installed subsequent to the year 1916 was included in the actual cost at the time of the purchase and installation. Such equipment as was purchased and installed since 1916 has been influenced by the abnormal war prices. Between the Average pre-war prices during the ten years prior to 1916 and the prices of labor and material as of January 1, 1920, there is a difference of approximately thirty-six per cent.

In answer to questions by the Special Master the witness continued:

That (thirty-six per cent) is the difference between the figures I have used and the present day prices. There is a greater difference between pre-war prices and the peak of war prices. For instance, in 1919, I believe, in a case of the Memphis Street Railway Company, they found there was a difference of about one hundred and eight in the pre-war cost of labor and materials and the then-present cost of labor and materials.

171 Resuming his testimony in answer to questions by coun
for defendants, the witness continued:

I have used uniformly higher prices than those prices whi
actually obtained during the ten-year period prior to 1916, and t
difference between my figures and the figures of Mr. Hamilton, f
instance, is as I have estimated it, practically or approximat
thirty-six per cent. I am not referring to conditions applying o
side of this particular work. That difference of thirty-six per c
is the cost of labor and materials during the ten years prior to 19
and the reproduction cost as of January 1, 1920, is the differe
in figures agreed upon between myself and Mr. Hamilton or M
Foster. Now that percentage, thirty-six, has been calculated in m
mind but it may be in error. I have not made any exact calculati
but it is approximately correct. That is contained in this agreem
of August 25th, 1920, and the exact percentage can be readily a
tained. That refers, of course, to the bare-bones of the property.

I obtained a history of the Brush Electric Company from i
books. I found that it purchased the property of the Brush Elec
Light and Power Company on the 30th day of March, 1912, wh
a formal transfer of all the properties was made. I was not a
to ascertain from the records of the Company the amount of t
purchase price. The Brush Electric Light and Power Compa
was a going concern at the time it was purchased by Brush Elec
Company; it was in operation, serving patrons and earning mon
The records covering the immediate period during which the trans
was made were missing. My recollection is that these records (t
corporate minutes of the Company) covered a period between 19
and 1912 inclusive. The Brush Electric Company was organi
the 14th day of February, 1912, with a capital stock of $300,000
Twenty-eight days later the Articles of Incorporation were amend
and the capital stock was fixed at 2,500,000.00. On the 30th d
of March (1912) a formal transfer of all the property included
the sale and purchase was made. Eleven days later we found t
Brush Electric Company receiving and accepting an offer from
attorney, and by attorney I don't mean an attorney at la
172 as matter of fact, Mr. Bump to whom I refer there is t
Company's Chief engineer. This was an offer to purch
some property for the sum of $1,500,000.00 of the first five per c
first mortgage bonds of the Company; five hundred thousand dol
par value of the six per cent cumulative preferred stock of the C
pany; three hundred thousand dollars in cash, and $1,700,000
par value of the common stock of the company, an aggregate amo
of $4,000,000.00.

At this point defendants introduced in evidence letter dated M
22, 1912, from Mr. Fred M. Lege to H. H. Scott, General Mana
of Doherty Operating Company of New York City, which is
follows:

5/22/12.

Mr. H. H. Scott,
Gen. Mgr. Doherty Operating Company,
New York, N. Y.

DEAR SIR:

We are today in receipt of notice from the County Clerk of Galveston County, requesting us to appear before the County Commissioners of Galveston, Texas, sitting as a Board of Equalization on the third day of June, 1912, between the hours of eleven A. M. and twelve thirty P. M., and show cause, if any we have, why the taxes on our property for the year 1912 should not be raised or increased over the assessed valuation of 1911.

For your information I wish to state that our property was rendered at $100,000.00, during 1911 and was rendered for 1912 at $150,000.00.

I have an idea what the Board of Equalization proposes to do, but do not know that the Galveston Wharf Company, Galveston Gas Company, Brush Electric Light and Power Company, Galveston Electric Company, as well as many other corporations have received the same kind of notice, and I think the entire matter will be placed in the hands of our attorneys, Terry, Cavin and Mills.

There is some talk of assessing the property at its full value and reducing the tax rate. This, however, is questionable.

Our book value of this property on January first was 13 approximately $440,000.00, and I would like you to instruct me as to what action you wish me to take in this matter and as to whether it should be handled by our attorneys and if so, will they be instructed.

I have planned to leave Galveston for Denver, June 1st, which would prevent the Board of Equalization making me swear to any values on the property. If, however, you deem it necessary for me to remain in Galveston and appear before this Board of Equalization in person, I of course will gladly do so, but am of the opinion that it would possibly be better to handle the matter through our attorneys.

Awaiting your instructions, I am,
Yours respectfully,

FML/H. ——— ———,
General Manager.

Resuming his testimony the witness continued:

I made a copy of that letter. The files contained a carbon copy of letter of that date addressed to Mr. Scott. This has nothing to do with stock and bonds. This refers to a statement of Mr. Lege of the book value of the property in 1912, and the matter referred to in connection with Mr. Bump is a copy of the minutes of the Board of Directors. That is contained on pages 10 and 11.

At this point defendants introduced in evidence copy of the minutes of the Board of Directors referred to, which is as follows:

"A Meeting of Board of Directors of Brush Electric Company h
in New York City, New York, on the 10th day of April, 19
pursuant to due notice.

Present: Messrs. Louis F. Musil, Carle B. Gilbert, Frank L. Bl
burn, Wm. P. Trath.

Mr. Musil presided and Mr. Gilbert acted as secretary of
meeting.

Thereupon the following offer was received from Mr. M. R. Bu
and presented to the Board.

174 March 14th, 191

To the Board of Directors of the Brush Electric Company.

GENTLEMEN:

I am in a position to cause to be secured for your company
of the property, real and personal, and franchises, of the Br
Electric Light and Power Company of Galveston, which consist
a complete and operating electric Company in Galveston, Te
The consideration which I would ask for the above, and which
cludes clear title to the same and all commissions payable,
securing thereof, is One Million Five Hundred Thousand Dol
($1,500,000.00) of the five per centum First Mortgage Bonds
your Company, the same to be portion of an authorized issue of F
Million Dollars ($5,000,000.00) face value of bonds to be secu
by a mortgage upon all of the property transferred and all prope
subsequently to be acquired, the same to run to a suitable trust c
pany and to contain the usual and customary covenants contai
in mortgages of like character; also Five Hundred Thousand Dol
($500,000.00) par value of the six per centum cumulative prefe
stock of your company, and Three Hundred Thousand Dol
($300,000.00) cash and One Million Seven Hundred Thousand D
lars ($1,700,000.00) par value of common stock.

The City of Galveston is a large and growing community and
right which the Company enjoys to do business in the City
Galveston, covered by a long time franchise, is most valuable,
in my opinion, the property is reasonably worth the sum ab
named, asked therefor, and I trust that you will see your way c
to accept the same. Kindly let me know immediately.

Yours truly,

M. R. BUMP

Resolved, that the foregoing offer of Mr. M. R. Bump be accep
etc."

Resuming his testimony, the witness continued:

The information necessary to form the basis of my report
obtained from the following sources: Costs of all items
175 plant and property were taken from the books of the C
pany. Revenue and Expenses were taken from the bo
of the Company, or from estimates made from date taken from

mpany's books. History of the business was made from records the Company's files and from records of the County of Galveston d the City of Galveston. Description of the Company's plant was de from personal inspection and from records of the Company. r. Sauer, Plant Superintendent furnished certain information re- rding the plant. The records and books of the Company were amined by Mr. J. A. Phillips, of the firm of Ernst & Ernst, Certi- d Accountants of Houston, Dallas, Ft. Worth and other cities. l investigations and determinations were made by myself.

Pages 14, 15, 16, 17 and 18 of my report show certain letters and cuments actually copied from the files of the Company.

At this point defendants introduced in evidence copies of letters d list of stockholders of Brush Electric Company, as follows:

2/23/12.

herty Operating Company,
60 Wall Street,
New York, N. Y.

NTLEMEN:

Enclosed herewith please find Annual Report in duplicate which required to be filed with the Secretary of State, the Mayor of the y and County Clerk.

Will you kindly examine this report and return at the earliest sible moment as there is quite a heavy penalty for delinquence filing this report.

Yours respectfully,

——— ———,
Secretary.

KEM/AP.
2 encl.

Henry L. Doherty & Company,
Bankers,
Sixty Wall Street,
New York.

February 27th, 1912.

ush Electric Light & Power Company,
Galveston, Texas.

NTLEMEN:

We are returning herewith State reports for the year ending cember 31st, 1911.

We wish to call your attention to the item #5 (Value of Visible gible Property).

We have taken this matter up with our attorney and he advises e we are unable to check this figure in any manner, and in view certain policies which we may want to pursue in the future, that

you take this matter up with your attorneys and either elimin
this item altogether, or materially increase it, if possible, as we
not want to go on record as giving such an exact value as shown
this report.

Yours very truly,

HENRY L. DOHERTY & COMPANY,
By F. L. BLACKBURN.

Encl.
FLB/W.

3/6/12

Henry L. Doherty & Company,
60 Wall Street,
New York, N. Y.

GENTLEMEN:

Attention Mr. F. L. Blackburn.

Replying to yours of February 27th, 1912, relative our St
reports I have taken this matter up with our Attorneys am advi
by them that it will be impossible to eliminate item number five.

I am enclosing, herewith, blank copy of this report and will a
that you kindly explain in detail just how you would like this ite
shown. Our attorneys advise that it will be possible to pla
177 an estimated value on this property but as same has to
acknowledged before a notary it will have to be a reasonab
value. The report as sent you shows our exact book value and
personally, do not feel that I could place a different value on it.

Will you kindly advise at the earliest possible date, just wh
disposition you wish made of this report as a penalty of $100
per day accrues after the 30th day of March.

Yours respectfully,

——— ———,
Secretary.

KEM/AP.
Encl.

4-8-12

Doherty Operating Company,
60 Wall Street,
New York, N. Y.

GENTLEMEN:

I am enclosing herewith duplicate of our tax report for the Y
1911. I have had this matter up with the Chief Clerk in the T
Assessor's Office and he stated to me that the County Commissione
had asked this rendition be raised to $450,000.00. They are basi
their demand on the price at which this property was sold. O
rendition for the past three years has been as follows:

1909	$76,000.
1910	80,971.
1911	100,000.

Our report to the State showed the value of visible tangible property as follows:

909	$215,246.00
910	368,708.00
911	447,902.00

I believe I can get this rendition in for between two hundred and fifty thousand and three hundred thousand, but I would like to have an expression as to what division you wish made.

They have demanded that item #31 covering franchise shall be fully described. We have heretofore blocked out the word "franchise" and inserted "pole lines," but they insist that this be changed.

I will ask that you give me an immediate reply on this as the time for assessment is up on the 30th of this month.

Yours respectfully,

——— ———,
Secy.

K. E. M./h.
Enclosure.

Galveston, Texas, 5/21/12.

Brush Electric Light & Power Company,
#2424 Market Street,
Galveston, Texas.

DEAR SIR:

You are hereby notified to appear before the County Commissioners' Court of Galveston County, Texas, sitting as a Board of Equalization, on the Third day of June, 1912, between the hours of eleven (11:00) o'clock A. M., and twelve thirty (12:30) o'clock P. M., and show cause, if any you have, why the Taxes on your property for the Year 1912 should not be raised or increased over the assessed valuation of the Year 1911.

By order of the Commissioners' Court of Galveston County, Texas.

Attest:

GEO. F. BURGESS,
County Clerk,
By J. R. PLATTE,
Deputy Clerk.

Night Lettergram.

The Postal Telegraph-Cable Company of Texas.

Mr. H. H. Scott, 5/22/1
Doherty Operating Co.,
#60 Wall Street,
New York, N. Y.:

Referring to my letter May twenty second we were called before
board of equalization yesterday and compromised by rendering
property at one hundred and eighty thousand. This will
179 mit Mason and I attending Denver meeting.

FRED M. LEGE, Jr

Brush Electric Company.

List of Stockholders of Record December 17, 1915.

	Name.	Address.	Common.	Pf fe
1	Milan R. Bump.....	New York, 60 Wall St.	...	5
1	Henry L. Doherty.....	do.	3	
2	Frank W. Frueauff....	do.	3	
21	Cities Service Company	do.	19,973	
22	Charles F. Brown.....	do.	3	
23	Paul R. Jones.....	do.	3	
24	Louis F. Musil.....	do.	3	
26	Holton H. Scott.....	do.	3	
27	George Williams.....	do.	3	
28	F. J. Derge.....	do.	3	
29	R. G. Griswald.....	do.	3	
			20,000	5

Resuming his testimony the witness continued:

Taking up now my method of valuation by the actual cost meth
that method in detail and my estimates reached by that method is
follows: Two general methods of valuation of the properties of pul
utilities are in use by Engineers, each having its advocates and p
poses. The "Actual Cost" method is based on the actual money
vested, the integrity of which is preserved by providing a fund fr
the profits to replace the original cost of elements of the prope
which are worn out or otherwise lose their value in the service of t
public; the fund must also provide for the latent depreciation. T
"Reproduction" method is based on the cost of a new plant exac
like the one to be valued, using present, or averaged, pri
180 for the labor and material, and applying depreciation to t
values as found, to correspond to the recorded or estima
age of the elem-ts of the existing property.

The "Actual Cost," by definition, is the sum of money, or its equivalent, which was expended for the property now in use for the benefit of the public; it is not necessarily what the original property cost, because that may have been, and much of it probably has been, replaced; the cost of the replacing property now takes the place of the original property, and its value is the actual cost which we consider. Neither is this basis the cost of similar materials and labor at the time of the investment, because conditions may have existed then which made the costs more or less than the present estimate of such, based on available information covering the prices and conditions of labor and materials at that remote time.

By adopting the actual cost method of valuation, the public guarantees the integrity of the investment. Material and equipment, which had to be installed to meet the public need at an unpropitious time and, therefore, at an excessive cost, is valued at that cost, and the return of the company is always a fair interest and depreciation on that original though possibly excessive, cost. If the public guarantees the integrity of the investment, bearing always any burden that might accrue from unfavorable conditions, the company has not the right to draw any advantage from a rise in value of apparatus and materials above original cost, and subsequent to its installation. If the income, dividends, and book values of a Public Utility were altered with each change in the market, there would be a chaotic condition of ever-changing values and the whole system would be unstable. The most potent factor which makes an investment in a Public Utility attractive to capital, is its stability of value and almost stable income. To admit that the capital account is subject to change with extraordinary and sporadic variations in labor and material costs, is to accept a condition of instability which would impose greater hardships on the utility than on the public. The theory of Reproduction Cost as the value of a plant, means this very thing.

By catching the opportunity at a favorable time, the utility
181 could obtain a valuation, based on Reproduction, much higher than the actual cost, with the attendant profits and benefits.

The intent of the Public Utility regulations of every government, city, state or national, is to allow a fair return to the investor on the amount of his investment. To allow a return on any other sum, no matter how computed or how just the value may appear, is to fail in the beginning to accomplish that which the ordinance, or decision, attempts.

If the value is taken at the cost of Reproduction, and is less than the actual cost, the investor does not receive the fair return that it is intended he should have. If this value taken exceeds the amount of his investment, he received not only a fair return on his investment, but he has also acquired a speculative profit on his holdings, which profit brings in an additional return. It is the intent of any ordinance, providing a return on investment, to protect that investment against a falling market, and, equally, not to admit of any speculative profit in addition to the stipulated annual return. One of the chief advantages of the Actual Cost method of valuation is

that the actual costs are taken of such overhead charges as interest during construction, superintendence, taxes during construction, engineering, general or administration charges and other so-called overhead or intangible costs. The records show whether these costs have been added to the plant values or charged to operating expenses, so that the reporting engineer may with certainty place these costs where they rightfully belong. If they have been absorbed in the current expense account, then the revenue from the existing *of* previous rates, paid by the public, have cancelled them as they developed. If they were not paid out of such revenue, then they belong to and constitute a definite part of plant value. The manner of arriving at the amount of such charges by the Reproduction method is to apply estimated percentages of the estimated values of the estimated present cost of the estimated reconstruction of a plant built in the distant past under estimated conditions.

The original cost with proper allowances for replacements
182 for depreciation as the basis of the computation of the present value of the properties of the Brush Electric Company has been adopted. It is believed that in accepting the franchise from the City, the public service corporation assumes a contract to furnish service of the proper kind * * * without interfering with the rights of any citizen, and that it must be guided by such reasonable rules and ordinances as the city authorities may pass for the definition of such rights. In return for these public services, the city shall allow such rates to be charged as will maintain the cost value of the original investment together with the cost of all additions to such investment, pay all the reasonable costs of operation and provide in addition a fair return to the owners on the money invested. It is believed also, that the city's duty is to see to it that the costs of operations are reasonable and that such rates are fixed as will pay a fair return on the owner's full investment of money in the used or useful properties of the utility, and that the city has the right to raise or reduce the rates to that end.

This statement made on page 36 of my report to the Board of Commissioners of the City of Galveston, Part I (Exhibit 16), is a copy of a statement presented by Brush Electric Company to the City Commission in 1919 in support of the Company's claim for increased revenue through the surcharge now in effect. This statement is reproduced here to indicate the basis on which the Company claims increased revenue.

The statement referred to by the witness was introduced in evidence by the defendant and is as follows:

(Here follows company's statement of operation data, marked page 183.)

1. Gross Earnings		28(
2. Operation & Maintenance		14
3. Net Earnings		11
4. Pay Roll		4
5. Number of Employees		
6. Per Cent Pay Roll to Gross Earnings		
7. Receipts Per	Muncipal	
8. Kilowatt Hour	Commercial	
9. Sold ¢	Power	
10.	Total	
11. Cost per Killowatt Hour Sold		
12. Net Earnings per Kilowatt Hour		
13. Generation		5
14. Operation & Maintenance to Gross Earnings Per Cent		
15. Bond Issue (Used as Valuation)		1,26
16. Additions to Plant		4
17. Estimated Reserve for Replacement & Maintenance		8
18. Reported Maintenance		1
19. Reserve Unexpended		7
20. Applicable to Return		3
21. Per Cent Earned on Valuation		
22. Fair Return—8%		10
23. Deficit of Fair Return		6
24. Fuel Cost per K. W. H. Sold		
25. 5% First Mortgage Bonds		1,26
26. Interest on Bonds		6

*[Red in copy.]

Brush Electric Company, Galveston, Texas.

Company's Statement of Operation Data.

Year Ending June 30.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Six months 1919.
.....	260,279.09	277,565.06	277,351.52	270,366.97	248,507.05	238,158.22	265,513.88	138,761.77
.....	145,107.86	149,894.43	134,001.26	149,863.34	155,944.64	199,403.50	211,981.84	106,021.16
.....	115,171.83	127,670.63	143,350.26	120,503.63	92,562.41	38,754.72	53,532.04	32,739.61
.....	45,967.15	45,983.50	53,019.80	41,771.70	45,456.06	56,848.27	68,981.07	36,505.50
.....	43	42	50	46	47	52	59	61
.....	17.4	16.5	19.1	15.4	18.2	23.8	25.98	26.2
.....	2.71	2.58	2.09	1.96	1.92	1.94	1.95	2.091
.....	10.44	10.03	9.45	8.85	9.03	9.44	9.94	9.48
.....	4.82	5.28	5.92	5.25	4.76	5.34	5.96	5.91
.....	6.83	6.94	6.85	6.13	5.81	6.17	6.61	6.68
.....	3.73	3.67	3.16	3.26	3.62	5.09	5.22	5.06
.....	3.10	3.27	3.69	2.87	2.19	1.08	1.39	1.62
.....	5,950,450	6,027,600	6,120,850	6,633,300	6,361,405	5,997,185	5,899,100	2,990,450
r Cent.....	55.84	54.00	48.32	58.88	62.79	83.72	79.84	76.40
.....	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00
.....	48,784.50	12,485.54	19,448.02	14,227.36	8,548.38	4,660.44	1,787.64	224.05
nce.....	88,550.00	88,550.00	88,550.00	88,550.00	88,550.00	88,550.00	88,550.00	44,275.00
.....	11,619.84	13,038.94	13,065.43	16,379.10	14,330.83	13,193.65	18,890.49	12,509.84
.....	76,930.16	75,511.06	75,484.57	72,170.90	74,219.17	75,356.35	69,659.51	31,765.16
.....	38,241.67	52,159.57	67,865.69	48,332.73	18,343.24	*36,601.63	*16,127.47	974.45
.....	3.02%	4.12%	5.34%	3.82%	1.45%	—0—	—0—	.07%
.....	101,200.00	101,200.00	101,200.00	101,200.00	101,200.00	101,200.00	101,200.00	50,600.00
.....	62,958.33	49,040.43	33,334.31	52,867.27	82,856.76	137,801.63	117,327.47	49,625.55
.....	1.35¢	1.18¢	0.95¢	0.89¢	0.92¢	2.209¢	2.24	2.095¢
.....	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00	1,265,000.00
.....	63,250.00							

184 Resuming his testimony the witness continued:

In following the Actual Cost method I took into consideration the depreciation of the Brush Electric Company property. Depreciation is the loss in value which is occasioned by the age, and use, and action of the elements, inadequacy, obsolescence of component elements of the property.

By the Master: Now, right there, last Friday Mr. Hamilton mentioned about the deterioration, the value was subject in any kind of machinery, steel and iron, here in this climate, the steel, the action of salt, and I want to bring it up. If I remember rightly, Mr. Hamilton's statement was that that class of materials would, for instance, its life was possibly not much over fifty per cent of a plant that was located in the interior.

By Mr. Hamilton: You are correct.

By the Master: That is the impression I had about it, and I just wanted to bring it right up now, and ask him about it, the depreciation, the effect of the salt air.

By Mr. Hamilton: There is just one change I wanted to make. When I said salt, I did not mean machinery for the reason that machinery is usually covered with oil but by steel, I mean structures, such as steel buildings and steel in tracks and those things that are not in daily operation, and not parts that are kept properly oiled, and equipment, of course equipment, generating machinery and those sort of things that are subject to daily care are not so affected, so that the steel that I meant was building steel and items of that kind.

In answer to questions by the Special Master the witness continued:

There is no question but that the humidity of the atmosphere has much to do with the hastening of rust and rot in this particular section of the country, or in any section of the country where the humidity is comparatively the same. I don't concede that there is any salt in the atmosphere, certainly not through evaporation of the sea water. If there is any salt, it is in the spray, and the spray does not get as a rule, this far inland, and there is very seldom any salt in the air. It is the atmosphere. You have always heard the statement about salt air. I don't believe there is any such thing, unless it is the spray of salt water, because certainly the air does not absorb any salt from the sea. There is salt in the air or atmosphere where it is close enough to the seaside to get the salt spray out of the water, that is the actual spray coming up and being wafted by the wind. But the humidity of the atmosphere caused by the evaporation of the water, and held in suspense by the atmosphere, would not contain any salt because the action of the sun's rays will not evaporate salt. The humidity in the atmosphere hastens the rot, rust and deterioration of electric light poles, although the cedar will not last as long in this section of the country as they will in San Angelo or in Dallas, dry sections of the state, and the same theory applies or the same conditions applies—I don't believe that an estimate can be made of the life of iron, steel, etc., as suggested by Mr.

Hamilton—about how long that would last, what would be the difference in the relative life in that kind of material in a climate like this right at the coast (Galveston) or at Dallas or some interior point I don't believe that anybody could do that accurately, or with a degree of accuracy, except through experience. One class of iron will deteriorate quicker than another class. The purer the iron the longer it will withstand the action of rust. Ordinarily, commercial steel will not last as long as good iron, and cast iron will last much longer than either. Galvanized materials will last longer than materials not so treated. The only way we can get at the life of the component elements of property of this time is to take the experiences extending over a great many years of the operators of similar plants, and accept as correct or approximately so the expectancies of life that experience has taught these other operators at other places. A plant down here at Galveston for instance, should deteriorate more rapidly than it would at any interior point where there is not so much humidity—particularly the poles and cross-arms and covering on the wire, and buildings, etc., would depreciate more rapidly in Galveston than in a dry climate. I can see no reason why that would be so as

186 to the machinery and dynamo and engines—they would not deteriorate any more rapidly on account of the humidity. Depreciation, in the elements of a public utility plant, is deterioration of the physical conditions of such elements due to the rot, rust, wear and tear, and the lessening of their functional value due to inadequacy, obsolescence and the public requirement. Practically every item that enters into the construction of a public utility property depreciates, except land. A piece of machinery on the very day its operation begins, starts on its inevitable road to the scrap pile where it eventually arrives. It is, however, often replaced, long before physical life is gone, because greater capacity is required, or before its original efficiency is affected, because of improvement in the art or increase in the business. Depreciation does not in all cases operate to a complete extinction of value. Many machines and materials have residual values which do not change in character but do change in money value. When a machine has lived its life of usefulness, performing the functions for which it was designed, it may be used to perform its functions in another plant, or it may be refabricated into a new machine. In the former case, the salvage value, and in the latter case, the junk value, logically added to the accrued depreciation fund. For instance, if the cost of a certain steam engine is $3,000.00 and its junk value is $250.00, its diminution in value within its life is $2,750.00, which sum is the loss sustained by the final displacement of the engine. If its life is twenty years, then the annual depreciation (according to the Straight Line System) is $137.50.

The Straight Line method of depreciation contemplates the setting aside each year of an equal fund or reserve, the total of which will be the total value of ——. Mr. Hamilton says that in his opinion the plant should be allowed five per cent for the year 1907 for depreciation. That is what is termed the Straight Line method

of depreciation, assuming that five per cent is set aside each year. Each year, that would mean that under the Straight Line method that the plant had an average life of twenty years, and the five per cent value of the plant would be set aside each year in a depreciation fund, to replace the elements of the property. In other words, there should in twenty years be returned into the depreciation fund
187 one hundred per cent of the value of the property for replacing it, replacement having been made from time to time as was necessary. In making an examination of the records of the Company I found that no regular depreciation fund had been set up.

In making my depreciation estimates I adopted the Straight Line method. In the Straight Line Method the amount to be set aside annually to cover this loss is the total sum divided by the number of years of life. That is, the same amount is put into the depreciation account each year throughout the life of the machine, and the total of these annual sums is equal to the loss sustained by the displacement of the machine. For instance, if the life of a boiler is sixteen years, its cost $2,600.00, and its junk value $300.00, the loss when displaced is $2,300.00. By the Straight Line method this required an annual fund of $\frac{2300}{16} = \$143.75$ to be set aside each year.

The foregoing, while theoretically the proper way of fixing the annual depreciation, is not commonly employed. It is customary to disregard the junk value for the following reasons: (*a*) The amount for which the junk can be sold twenty or thirty years hence is too uncertain to form any basis for present day values. (*b*) Any depreciation rate is, at best, an approximation, based on the average life of any apparatus or material has been found to exist in the past and in other localities. Any rate of depreciation which may be assumed is based simply on averages and, in all probability, will not be the actual rate of depreciation of the specific item to which it is applied. Therefore, the insertions of junk values merely add an uncertain computation.

For these reasons it has been customary for appraisers to assume that the equipment depreciates from initial value to zero, and at a uniform rate, throughout a given period of usefulness. We prefer to use this system partly because of its simplicity, but principally because it gives a greater annual return to a public utility than the amount which would obtain by inclusion of a junk value. In attempting to fix the proper returns for any public utility there should be some latitude in favor of the utility wherever there is any uncertainty. I have related an illustration of how the exclusion of
188 junk value works to the advantage of the utility. I believe, however, that it will be of no particular value, at this time, to discuss that.

The Compound Method of depreciation assumes that the depreciation that the depreciation fund set aside each year draws interest, which interest accumulates and adds itself to the annual sums set aside, so that the total amount accumulated at the end of the life of the apparatus just equals the amount lost by its displacement. In

this latter case, the annual depreciation charge is less than that as computed by the Straight Line Method. The Compound Method assumes that the money is accumulated at a given rate of interest for a fixed period of time which is the assumed life of the machine or structure. As matter of fact, no one can predict, with certainty, the actual date on which any appliance will cease to be useful, or profitable. The necessity for replacement may arrive at any time—possibly at some unexpected near date. Under the Straight Line Method the funds accumulated are available at their full face value at any time.

It is quite important that a depreciation fund be set up for several reasons. One is to compensate for the decrease in value of any appliance and apparatus, due to age and use. Another is to provide for renewals and replacements of machinery and apparatus which are discarded because better and more economical devices become effective and available for commercial use, though such discarded apparatus may be in good order and still have a long period of operative life before it. A third use of the depreciation fund is to assist in paying for new machinery and apparatus of greater capacity, subtsituted for apparatus which has been discarded solely because the growth of the service has passed beyond the capacity of the original installation and requires that it be replaced before it is worn out, or before it becomes obsolete by reason of developments in the state of the art. The use of the depreciation fund in this latter case is simply to pay for that portion of the new machinery that is represented by the original cost of the discarded apparatus, and it must supply an amount toward paying for the new equipment, equal to the original cost of the discarded machine, while the balance of the cost of the new equipment is chargeable to increased capitaliza-
189 tion. It is also to pay for extraordinary damages to property, due to storms or other unfor-seen occurrences. As an important feature of the depreciation fund, namely, that the owner of the plant is not entitled to increase his capital account when moneys are expended for replacements and renewals of apparatus, unless the plant is enlarged, as before mentioned, because the very object of the depreciation fund is to maintain the plant perpetually at its initial value and thus keep intact the property on which the securities were originally issued. This fact has led to numerous disagreements between plant operators and Public Service Commissions in adjusting rates, or between the operators and financiers.

Depreciation is necessarily measured by money value. In a public utility it is that part of the cost of the plant which has disappeared in the service of the Public. It, therefore, follows that the amount of the depreciation plus the present value of the plant (both values of course being based upon the actual cost) will always be equal to the original investment, so that when an element of the plant had entirely disappeared from useful life in the plant, the depreciation value, if it has been provided in money during its life, will provide that much of the cost of the replacement; the balance being charged or credited to capital account. Thus, theoretically and in fact, always preserving the integrity of the investment.

In estimating the value of Brush Electric Company's plant by the Cost Method I used the depreciation rate of four per cent; and I might say here that on account of the fact that no one has lived long enough nor has accumulated a sufficient amount of knowledge of the component elements of the public utility or of public utilities to know by intuition, I guess, just how long a certain piece of equipment or apparatus will last, and by inspecting it judge what life it may have left in it, it has become necessary for engineers to establish some yardstick or rule of measure by which the depreciation can be uniformly arrived at. Any estimated rate of depreciation may or may not be exactly correct, but by enlarging the experiences of a large number of operators and engineers in the study of the
190 subject, has indicated certain lives for various component parts of utility plants, and the application of rates of depreciation in proportion to the estimated life of the equipment, will on the average come very near to producing accurate results. And while you may estimate the life of an engine at twenty years, for various reasons that particular engine may actually last thirty years or forty years, still there is no way of knowing beforehand just now long it will last, and on the average a number of that character of engines under very similar working conditions will only last twenty years, so it is reasonable to assume that that is the life of that engine, although as I say it may as the years go by be evidence of the fact that the rate of depreciation as regards that particular piece of machinery has been improperly applied. The greatest trouble in ascertaining or in estimat- the present value of equipment such as pipe under the ground and the butt end of poles in the ground and foundations of buildings and machinery that cannot be examined, is the fact that there is no way to properly examine the piece of hidden equipment, and unless a knowledge of the average life of such equipment as indicated by the experience of others in years gone by in connection with that equipment—for instance, they have got a pipe line laid from the pumping station to the power plant. It is laid with three-inch pipe, and it was laid in 1907. That is entirely hidden and we do not know what its condition is. To say that it is ninety per cent depreciated might be unfair to the Company. To say that it is only ten per cent depreciated might be unfair to the City. There is no way to tell, except by taking the age, the length of time the pipe has been in the ground, and knowing how long pipe ordinarily lasts in the ground, can we arrive at what is the probable life at present. Now, I notice that Mr. Hamilton's rate of depreciation on that piece of pipe is ten per cent. As a matter of fact, that pipe, has, according to the statement of the plant engineer, the superintendent, entirely rusted out and at the present time has no value at all because it cannot be used for the purposes for which it was laid, and according to the way hidden pipe deteriorates in this wet sand with the salt water, if it were laid in
1907 as the records indicate, it is reasonable to suppose that
191 it has rusted out, although as indicated by Mr. Hamilton's rate of depreciation it still has ninety per cent of its life, that is if I remember his rate correctly.

The rate of depreciation adopted is defined as the ratio of the a
nual loss due to the physical, functional and legal causes mentione
in "Depreciation", to the actual cost The reciprocal of the age i
years, limited by all of the said causes, is the rate or percentage of co
lost each year by depreciation. A depreciation rate is, at best a
arbitrary estimate based on the measured experience of the duratio
of life of property similarly situated and used. It is evidentl
difficult to find an exact basis for such a rate. It is usually worke
out by each industry from its own experience tables. The estimate
percentages are made by the book value of the various groups o
property owned by the Brush Electric Company, as of January 1s
1920, and applied thereto are the rates of depreciation indicated b
the best engineering experiences, which are shown in the followin
tables.

At this point defendant introduced in evidence Table No. 1, show
on page 50 of Mr. Elrod's Report to the Board of Commissioners o
the City of Galveston, Part 1 (Exhibit 16) which Mr. Elrod testifie
he made. The Table is as follows:

TABLE No. 1.

Item.	Value.	Dep'c'n rate.	Depre-ciation.
Buildings	$24,646.06	2%	$492.9
Boiler Plant	57,745.44	5%	2,887.2
Engines and Turbines ..	113,144.04	5%	5,657.2
Electrical Equipment ...	67,116.61	10%	6,711.6
Overhead Distribution ..	261,285.93	5%	13,064.2
Tools and Instruments ..	5,858.33	10%	585.8
Barn and Garage	11,566.28	20%	2,313.2
Office Fix. and Fur.	8,883.29	6-2/3%	592.2
Underground System ...	2,325.20	2%	46.5
Totals	$552,571.18		$32,351.1

$$\frac{\$552,571.18}{32,351.15} \text{ equals } .058$$

192 Resuming his testimony, the witness continued:

It will thus be seen that the weighted average rate of de-
preciation for the property, as a unit, would be 5.8 per cent. On
account of the small value attributed to the Company's building, to-
gether with the fact that salvage and junk values have been neglected,
as hereinbefore explained, the rate of depreciation is higher than the
rates generally employed for plants of this character, hence we are
arbitrarily using the usual rate, four per cent, for the purposes of this
report. While this rate will operate to the advantage of the Com-
pany in that it gives it greater plant values upon which to earn a
return, we feel that the public desires that the Company be dealt with
a little more than the exact measure of justice. By the expression

"usual rate" I mean the rate for electric light property throughout the country. I believe that four per cent will be adequate for this and other reasons. As to the locality, there is a higher rate of depreciation, that is, the properties depreciate at a greater rate, that is, certain property depreciates at a greater rate than it does in a drier locality. The methods of operation of the Company, however, have something to do with the situation. For instance, the part of their properties and a very substantial part of their properties, is the distribution system, which consists of poles, guys, cross-arms, pins and wire, transformers, and so on. All these things are more or less affected by the humidity. What I referred to just now is what I call an overhead distribution system, and my valuation of it is $261,265.00. That is a large proportion of the plant value. Now, instead of charging depreciation against this distribution system, this distribution system is maintained through maintenance. When a pole is removed and another one put in its place, instead of crediting depreciation with the old pole or such value as the old pole may have in it, and charging depreciation with the cost of the new pole that takes its place, the new pole is charged to maintenance which is operating expense, and is provided for directly out of the rates. That is, paid for by the public as it accrues, and as long as the pole line is maintained in that manner it does not depreciate. So far as I
193 have been able to determine from the books of the Brush Electric Company the expense of putting in new lines where old lines become depreciated, become worthless, has been charged as maintenance—as an operating expense, and deducted as an operating expense from the gross earnings. A rule of the Interstate Commerce Commission is that when items exceed One Hundred Dollars they are chargeable to capital account. So far as I have been able to determine from the Brush Electric Company's books they have never set aside a depreciation fund.

With further reference to the matter of depreciation and application of the methods of determining depreciation, just as an illustration of the principal difference between Mr. Hamilton's figures and my figures, in connection with various items, the plant is provided with a brick smokestack. It is five feet in diameter on the inside and 125 feet high. That smokestack is included in my summary of the boiler plant, $57,000, Boiler Plant, page 50 Table 1 of my Report. It would come in under the head of Boiler Plant in that table. That smokestack was not considered in my value, and that is the point I am coming to; and on page 79 or 80 of my report I refer to that stack, and Mr. Hamilton has valued the stack at a certain amount which we have agreed upon. He has deducted ten per cent depreciation. That was not mean that the annual rate of depreciation is ten per cent, but it means that over the life of the stack ten per cent of its value or life has expired, or ten per cent of its value is gone, leaving ninety per cent. The stack is something like thirty-three to thirty-five or thirty-eight years old. The average life of brick smokestacks as given by most of the eminent authorities, is thirty-three to thirty-five years. According to Mr. Hamilton's theory it still has a value in it of $10,400.00. Now, as a matter of fact, that

smokestack is unsafe and an order has been issued to have it removed because it is cracking and there is eminent danger of its falling down at any time. And it has no value, in fact it is a liability rather than an asset, on account of the fact that it will cost more to remove it than the material in it might be worth if it were salvaged, on account of the fact that it must be taken down almost in the same manner that it was put up. It cannot be just shoved over; it must
194 be taken down brick by brick. Now I have depreciated it out of existence entirely. That is, I have assigned no value to that stack because it has no value. Mr. Hamilton has a value attributed to it of $10,400.00. At this time, a modern concrete stack of larger diameter could be built for $2,500.00 than his estimate of the present value of that stack.

My method of computing depreciation in setting aside each year four per cent of the value of the plant as indicated by the book records. Mr. Hamilton has pursued an entirely different method of determining depreciation. His estimates of depreciation are based upon an inspection of the equipment and history of its life and the efficiency which the operating report shows that it has. That was the basis on which Mr. Hamilton arrived at the amount of depreciation. He did not set aside five per cent depreciation fund yearly to take care of the depreciation in making his estimates. He now proposes to set aside from this time on five per cent depreciation yearly. As I have been able to determine, Mr. Hamilton's rate of depreciation, or rather the amount of depreciation that he has extracted, accumulating over the years of the existence of the plant amounts to 18-1/10%, or approximately that, for the thirty-eight years of the plant's life, that would be a little less than ——. The total depreciation, 18.1% over the 38 years of the life of the plant. That is that two hundred and sixty three difference, that is the depreciation value after deducting one million, one hundred and seventy-seven thousand, one hundred and seventeen—three hundred and forty thousand. Mr. Hamilton's method of arriving at depreciation does not take into account what may have been expended by the Company in upkeep and replacements and charged to operating expenses. I have allowed no depreciation with respect to valuation of real estate. I have allowed appreciation with respect to real estate. The difference between the cost and present value should be divided by the number of years it has been owned by the Company and the quotient will be the annual average appreciation or depreciation as the case might be; and should, of course, be deducted or added to the annual depreciation of the plant values which are charged to
195 operating expenses of the plant. We have therefore used the full cost of all the real estate owned by the Company for the purpose of fixing the value of the properties entitled to a fair return. Taxes and other expenses which are not added to cost, but are paid for as a part of operating expenses, are allowed. This estimated present value of the real estate owner is added to the present value of the Company's properties and the annual increment is credited to annual depreciation. The property originally cost them about $16,270.00, and its present value as agreed is $20,000.00.

Year.	Plant value, January 1st. 1	Additions to plant value, Jan. 1st to Dec. 31st. 2	Depreciation, January 1st to December 31st, 4%. 3
1882	$50,000.00	None	$2,000.00
1883	48,000.00	$20,230.00	1,920.00
1884	66,310.00	6,200.00	2,652.40
1885	69,857.60	14,278.40	2,794.30
1886	81,341.70	11,933.42	3,253.67
1887	90,021.45	11,933.42	3,600.86
1888	98,354.01	11,933.42	3,934.16
1889	106,353.27	11,933.43	4,254.13
1890	114,032.57	10,355.74	4,561.30
1891	119,827.01	4,235.59	4,793.08
1892	119,269.52	10,230.48	4,770.78
1893	124,729.22	4,355.57	4,989.17
1894	124,095.62	10,583.72	4,963.82
1895	129,715.52	17,562.21	5,188.62
1896	142,089.11	8,846.56	5,683.56
1897	145,252.11	11,559.97	5,810.08
1898	151,002.00	6,866.06	6,040.08
1899	151,827.98	16,091.05	6,073.12
1900	161,845.91	2,025.13	6,473.84
1901	157,397.20	16,513.82	6,295.89
1902	167,615.13	2,857.88	6,704.61
1903	163,768.40	16,778.30	6,550.74
1904	173,995.96	4,743.99	6,959.84
1905	171,780.11	26,141.84	6,871.20
1906	191,050.75	27,281.56	7,642.03
1907	210,690.28	116,125.78	8,427.61
1908	318,388.45	26,798.98	12,735.54
1909	332,451.89	62,384.08	13,298.08
1910	381,537.89	66,165.08	15,261.52
1911	432,441.45	26,019.13	17,297.66
1912	441,162.92	7,660.06	4,411.63
1912	444,411.35	37,811.68	13,332.34
1913	468,890.69	40,039.44	18,755.62
1914	490,174.51	13,608.54	19,606.98
1915	484,176.07	22,132.86	19,367.04
1916	486,941.89	15,977.76	19,477.67
1917	483,441.58	15,165.13	19,337.66
1918	479,269.05	5,077.19	19,170.76
1919	465,175.48	9,118.22	18,607.01
1920	455,686.69	.....	18,227.46
Totals	.....	$749,555.09	343,868.40

*[Red in copy.]

Depreciation, January 1st to December 31st, 4%.	Real estate value, January 1st.	Real estate appreciation, Jan. 1st to Dec. 31st.	Net depreciation, Col. No. 3 less Col. No. 5.	Net plant value, Col. No. 1 plus Col. No. 4.	Working capital, 10% of gross earnings.	Total plant value, Col. No. 7 plus Col. No. 8.	Allowable return: 8% on Col. 9.	Allowable return and net depreciation Col. No. 6 plus Col. No. 10.
3	4	5	6	7	8	9	10	11
$2,000.00	None	None	$2,000.00	$50,000.00	.....	.....	.....	.....
1,920.00	None	None	1,920.00	48,000.00	.....	.....	.....	.....
2,652.40	None	None	2,652.40	66,310.00	.....	.....	.....	.....
2,794.30	None	None	2,794.30	69,857.60	.....	.....	.....	.....
3,253.67	$10,721.60	112.90	3,140.77	92,063.30	.....	.....	.....	.....
3,600.86	10,834.50	112.90	3,487.96	100,855.95	.....	.....	.....	.....
3,934.16	10,947.40	112.90	3,821.26	109,301.41	.....	.....	.....	.....
4,254.13	11,060.30	112.90	4,141.23	117,413.57	.....	.....	.....	.....
4,561.30	11,173.20	112.90	4,448.40	125,205.77	$6,906.01	$132,111.78	$10,568.94	$15,017.34
4,793.08	11,286.10	112.90	4,680.18	131,113.11	5,758.47	136,871.58	10,949.72	15,629.90
4,770.78	11,399.00	112.90	4,657.88	130,668.52	6,155.00	136,823.52	10,845.88	15,603.76
4,989.17	11,511.90	112.90	4,876.27	136,241.12	7,083.35	143,324.47	11,465.95	16,342.22
4,963.82	11,624.80	112.90	4,850.92	135,720.42	7,616.64	143,337.06	11,466.96	16,317.88
5,188.62	11,737.70	112.90	5,075.72	141,453.22	8,125.66	149,578.88	11,966.31	17,042.03
5,683.56	11,850.60	112.90	5,570.66	153,939.71	8,375.15	162,314.86	12,985.18	18,555.84
5,810.08	11,963.50	112.90	5,697.18	157,215.61	7,678.16	164,893.77	13,191.50	18,888.68
6,040.08	12,076.40	112.90	5,927.18	163,078.40	7,939.21	171,017.61	13,681.40	19,608.58
6,073.12	12,189.30	112.90	5,960.22	164,017.28	8,676.30	172,693.58	13,815.48	19,775.70
6,473.84	12,302.20	112.90	6,360 94	174,148.11	6,055.39	180,203.50	14,416.28	20,777.22
6,295.89	12,415.10	112.90	6,182.99	169,812.30	9,812.99	179,625.29	14,370.02	20,552.68
6,704.61	12,528.00	112.90	6,591.71	180,143.13	7,933.76	188,076.89	15,046.15	21,637.86
6,550.74	12,640.90	112.90	6,437.84	176,409.30	7,551.51	183,960.81	14,716.86	21,154.70
6,959.84	12,753.80	112.90	6,846.94	186,749.86	10,741.85	197,491.61	15,799.32	22,646.26
6,871.20	12,866.70	112.90	6,758.30	184,646.81	8,370.69	193,017.50	15,441.40	22,199.70
7,642.03	12,979.60	112.90	7,529.13	204,030.35	10,000.60	214,030.95	17,122.47	24,651.60
8,427.61	12,092.50	112.90	8,314.71	223,782.78	12,119.13	235,901.91	18,872.15	27,186.86
12,735.54	13,205.40	112.90	12,622.64	331,593.85	13,257.01	344,850.86	27,588.06	40,210.70
13,298.08	13,318.30	112.90	13,185.18	345,770.19	16,308.54	362,078.73	28,966.29	42,151.47
15,261.52	13,431.20	112.90	15,148.62	394,069.09	22,471.15	417,440.24	33,395.21	48,543.83
17,297.66	13,544.10	112.90	17,184.76	445,985.55	27,238.67	473,224.22	37,857.93	55,042.69
4,411.63	18,657.00	41.96	4,369.67	459,819.92	23,853.52	483,673.44	9,673.46	14,043.13
13,332.34	18,698.96	125.90	13,206.44	463,110.31	23,853.52	486,963.83	29,217.82	42,424.26
18,755.62	18,824.86	167.86	18,587.76	487,715.55	26,247.96	513,963.51	41,117.08	59,704.84
19,606.98	18,992.72	167.86	19,439.12	509,167.23	28,055.45	537,222.68	42,977.81	62,416.93
19,367.04	19,160.58	167.86	19,199.18	503,336.65	28,104.12	531,440.77	42,515.26	61,714.44
19,477.67	19,328.44	167.86	19,309.81	506,270.33	27,260.38	533,530.71	42,682.45	61,992.26
19,337.66	19,496.30	167.86	19,169.80	502,937.88	25,298.16	528,236.04	42,258.88	61,428.68
19,170.76	19,664.16	167.86	19,002.90	498,933.21	24,415.82	523,349.03	41,867.92	60,870.82
18,607.01	19,832.02	167.86	18,439.15	485,007.50	30,452.19	515,459.69	41,236.77	59,675.92
18,227.46	20,000.00	167.86	18,059.60	475,686.69	33,980.00	509,666.69	40,773.32	58,832.92
343,868.40	.....	4,278.28	339,590.12	.....	.....	.....	.....	.....

Working capital, 10% of gross earnings.	Total plant value, Col. No. 7 plus Col. No. 8.	Allowable return: 8% on Col. 9.	Allowable return and net depreciation, Col. No. 6 plus Col. No. 10.	Actual return as per company's books.	Surplus, Col. No. 12 less Col. No. 11; Deficit, Col. No. 11 less Col. No. 12.	Value of Col. 13 at 12-31-19 at 8% interest compounded annually.
8	9	10	11	12	13	14
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....
$6,906.01	$132,111.78	$10,568.94	$15,017.34	$2,007.42	*$13,009.92	*$126,065.40
5,758.47	136,871.58	10,949.72	15,629.90	8,366.66	*7,263.24	*65,167.12
6,155.00	136,823.52	10,845.88	15,603.76	10,231.14	*5,372.62	*44,633.35
7,083.35	143,324.47	11,465.95	16,342.22	11,065.57	*5,276.65	*40,588.94
7,616.64	143,337.06	11,466.96	16,317.88	6,883.10	*9,434.78	*67,198.55
8,125.66	149,578.88	11,966.31	17,042.03	5,522.92	*11,519.11	*75,966.61
8,375.15	162,314.86	12,985.18	18,555.84	11,851.45	*6,704.39	*40,939.08
7,678.16	164,893.77	13,191.50	18,888.68	11,876.38	*7,012.30	*39,647.57
7,939.21	171,017.61	13,681.40	19,608.58	12,961.86	*6,646.72	*34,796.82
8,676.30	172,693.58	13,815.48	19,775.70	12,949.01	*6,826.69	*33,091.65
6,055.39	180,203.50	14,416.28	20,777.22	1,057.82	*19,719.40	*88,507.11
9,812.99	179,625.29	14,370.02	20,552.68	39,447.04	18,894.36	78,522.31
7,933.76	188,076.89	15,046.15	21,637.86	31,457.42	9,819.56	37,785.86
7,551.51	183,960.81	14,716.86	21,154.70	20,427.96	*726.74	*2,591.33
10,741.85	197,491.61	15,799.32	22,646.26	25,344.36	2,698.1[illegible]	8,901.17
8,370.69	193,017.50	15,441.40	22,199.70	32,907.70	10,708.00	32,709.49
10,000.60	214,030.95	17,122.47	24,651.60	30,424.98	5,773.38	16,329.44
12,119.13	235,901.91	18,872.15	27,186.86	9,421.00	*17,765.86	*46,526.94
13,257.01	344,850.86	27,588.06	40,210.70	38,479.62	*1,731.08	*4,197.70
16,308.54	362,078.73	28,966.29	42,151.47	79,716.36	37,564.89	84,343.56
22,471.15	417,440.24	33,395.21	48,543.83	120,682.05	72,138.22	149,972.46
27,238.67	473,224.22	37,857.93	55,042.69	140,897.09	85,854.40	165,266.89
23,853.52	483,673.44	9,673.46	14,043.13	27,658.57	13,615.44	24,967.82
23,853.52	486,963.83	29,217.82	42,424.26	110,634.28	68,210.02	120,406.69
26,247.96	513,963.51	41,117.08	59,704.84	115,171.83	55,466.99	91,539.64
28,055.45	537,222.68	42,977.81	62,416.93	127,670.63	65,253.70	99,714.38
28,104.12	531,440.77	42,515.26	61,714.44	173,109.33	111,394.89	157,613.69
27,260.38	533,530.71	42,682.45	61,992.26	123,666.03	61,673.77	80,798.71
25,298.16	528,236.04	42,258.88	61,428.68	82,005.66	20,576.98	24,961.02
24,415.82	523,349.03	41,867.92	60,870.82	40,761.54	*20,109.29	*22,586.74
30,452.19	515,459.69	41,236.77	59,675.92	87,269.51	27,593.59	28,697.33
33,980.00	509,666.69	40,773.32	58,832.92	.....	.....	.....
.....	.....	.....	.....	.....	528,117.51	$470,025.55

I have here a table showing my method of arriving at the value of the property on the basis of cost less depreciation, which appears at page 88 of my Report to the Board of Commissioners of the City of Galveston, (Exhibit 16, part 1) and is Table 2. It will be necessary before explaining that table to explain how the first figure of $50,000.00 as the plant value for January 1, 1882, was arrived at. It is probable that the Company started business some time early in the year of 1882 but no data are obtainable covering the investment in plant or what its operations were. The following data, however, copied from the corporate records, shed some light on the situation as it existed in 1888, six years after the plant was put in operation.

At this point the defendant's introduced in evidence Table No. 2, page 88 of said report, which is as follows:

(Here follows Table No. 2, marked page 196.)

197 Resuming his testimony the witness continued:

An electric light and power plant of a size to fulfill the quirements of current as indicated above, consisted of the follow equipment, in all probability:

1 Arc Light Generator, 50 Light Capacity.

1 Incandescent Electric Light Generator 100 K. W. Capacity Horse Power Capacity of Boilers.

(It is possible, though not probable, that there was a duplicate stallation of generators and boilers for emergency, so we are giv the company the benefit of the doubt in the matter).

All buildings, pole lines, arc lights and other necessary equ ment to make a complete installation.

Such a plant, constructed in the '80's, could not have cost, reason, more than Fifty Thousand Dollars and probably cost l It will be noted that there were, outstanding, $35,000 first mortg bonds of the Company. If the usual custom of bonding prope for not more than seventy-five per cent of its value were adhere in this instance, then the value of the properties was $46,66 We believe that this amount fully covers the value of the Compan properties at that time, but are using the former figures ($50,000 the probable value of the properties as of 1882. At that time Company owned no real estate. That $50,000.00 is a fair estim of the then value of the Company's properties is borne out by fact that the tax rendition of the property owned by the Company of January 1st, 1883, and which, by the way, is the largest tax re tion they have ever had, was $22,142.00; on the basis of a s per cent of value rendition the property was then worth only $ 903.33. This leaves a margin of $13,096.87 for promotion, le interest during construction and other overhead, or intangible penses, to cover which we consider this amount ample.

Beginning with February 1st, 1890, the records of the Comp are complete as to plant value, additions to plant v

198 revenue and disbursements. The value of the Compan properties, as set up on their books, as of February 1st, 1 was $149,163.69. There is shown, also, that a "Surplus" of $ 276.55 existed at that time. Further corroborating that figur have here a statement I have made, a statement signed by Mr Adoue, copy of balance sheet, Brush Electric Light and Power C pany of Galveston, January 31st, 1888, in which the total valu the property at that time is given as $145,535.22. Included in t are various items which will aggregate more than $10,000.00, s as collections, and poles, insurance, interest, law suits, and a personal accounts, which would indicate that the then value of company's property was less than $140,000.00. Taking $50,00 as the original cost of the plant there must have been added prio 1890, values in the sum of $99,163.69 in order to bring the total to the value as of February 1st, 1890, of $149,163.69. Tak $50,000.00 as the original cost of the plant there must have b added, prior to 1890, values in the total sum of $99,163.69. Deed Records of Galveston County, as previously cited, show the Company acquired in 1885 real estate and buildings for w

paid $25,000.00. The Tax Records show increases in the value the Company's properties in the years 1883 and 1884 of $12,-.00 and $3,720.00, respectively. On the same basis of rendition used above (sixty per cent of value) these figures would indicate t additions in the sum of $20,230.00 and $6,200.00, or thereout, were made in the years 1883 and 1884, respectively. This ng the case, there would be a balance of $47,733.69 to be disuted over the next five years. As $25,000.00 was added in the r 1885 through the purchase of the real estate and buildings mened, ew are arbitrarily distributing the above balance over the rs 1886, 1887, 1888 and 1889, in equal amounts.

For the purpose of arriving at the depreciated value of the Comy's properties we are using the above figures as reflecting, to a sonable degree of accuracy, the facts concerning the Company's perty values prior to February 1st, 1890. The following table ws the probable investment in plant, with additions to plant, all depreciated at the rate of four per cent per annum. While this depreciation rate is quite low for properties of this character in the '80's, it is the rate now most used by appraisers of tric light properties hence we are adopting it as the rate to apply r the entire period from 1882 to 1920. The value of the Comy's real estate is appreciated at the rate of $112.00 per annum to 2, and at the rate of $167.86 from 1912 forward, the explanation the use of these amounts being given under the head of "Real ate." And I might mention that in 1912 or 1911 the company ght additional property for which it paid $5,000.00, and that it esponsible for the increase in the annual rate of appreciation. eir books show nothing about this $47,733.69 that I have arbiily distributed over five years from 1886 to 1889; their records do go back further than 1890, and it has been necessary so that know that in 1890 we know the value was $149,000.00, and we assume with a reasonable degree of accuracy that the value in 2 was around $50,000.00; then there must have been added in the rs intervening between 1882 and 1890 the difference between the ,000.00 and $149,000.00, or $99,000.00; and we have distributed as nearly as possible according to the tax renditions, the inses in the tax renditions, and such data as we have record of ch covers the purchase of the buildings and so on, but it is little eriality as to how those distributions were made because the ounts are small and the total depreciation would be a very small tter as compared with the balance of its life. Since February 1, 0, the records of the Company have been clear as to the amounts money expended for additions to plant.

I have used as the basis of depreciation four per cent. If I had d as the basis of depreciation five per cent it would have increased twenty per cent, or thereabouts, the amount of accrued depreciato be extracted from capital values, and would have left a very h smaller amount as the present value of the plant upon which turn could be earned. The original cost of the plant is taken at ,000.00 in Column One. In Column 2, the additions that were de to the plant or the capital account from January 1st, to Decem-

ber 31st, inclusive, and I notice there that the "3" is left
200 that December—it should be Dec. 31st. Column No. 2
cates the amounts of additions to plant for each year be
January 1st and December 31st, inclusive, as indicated by the
of the Company subsequent to 1890, and as explained prior to
time. These additions are added to the value of the plant as
first of the year. Then depreciation at the rate of four per ce
deducted from the value of the plant from January 1st to Dece
31st, inclusive. That depreciation would not operate on the
tions to plant made during that period. These sums calculated
in Table 2 do not include any four per cent depreciation on the
provements made that year or additions made that particular
The depreciation is not included on the additions to plant made
year. The depreciation for the year previous will show up
value of the plant as of January 1st, and the depreciation is fig
on that. In other words, the total additions to plant would
been made and been in operation the year before the depreci
is operative. Then Column No. 4 gives the value or the appre
value of the real estate as of January 1st, of each year. Colum
5 is the amount of appreciation in real estate each year from J
ary 1st to December 31st, inclusive. Column No. 6 is the ne
preciation, that is the difference between the depreciation of
value and the appreciation of the value of the real estate. Co
No. 7 gives the net plant value, which is the value of the plan
December 31 or January 1, plus the value of the real estate o
cember 31 or January 1.

Column No. 8 is the amount of working capital allowed
is ten per cent of the gross earnings for the previous year. T
consider a fair allowance for working capital. I assume tha
amount of working capital necessary is just that amount tha
be required for one month on account of the fact that their bil
service are collected each month, and they have their return
month, and their returns exceed their operating expense, and
allow them one-twelfth of their operating expenses for each m
as working capital that will cover all of their operat
201 Then when their bills come due at the end of the m
usually collectible by the fifteenth, they have sufficient m
on hand to run them next month and so on. Mr. Hamilto
used two months of the average operations and maintenanc
found that one month's average operations and maintenance
be ten per cent of the gross earnings. The allowance of ten per
of the gross earnings has been more than an allowance of
month's operations and maintenance. The allowance of wo
capital is for payment of operating expenses and materials nec
in making maintenance, in maintaining the property; and I f
that ten per cent of the Brush Electric Company's gross ear
more than covered any one month's operating expenses so far
have been able to discern from their books.

Column 9 is the total plant value which is the sum of Colu
and Column 8. Column No. 7 is the net plant value and the
ing capital. Column No. 10 is the allowable return at eigh

on the total plant value in Column No. 9. Column No. 11 is llowable return and net depreciation. In other words, they are ed to earn eight per cent on the total plant value together with llowance sufficient to cover the depreciation extracted. For that eciation I have taken the rate of four per cent and set up a de- iation reserve. That is four per cent over-all depreciation should llowed regularly.

he Brush Electric Company should be permitted to make a re- on the proper valuation of its property at eight per cent after cting operating expenses, maintenance, etc.; and in addition to ight per cent return they should be permitted to earn enough ovide a depreciation fund equal to four per cent of the fair e of their property, that is, not the fair value of their total prop- but the fair value of their appreciable property or depreciable erties, such as plant and equipment and so on—not on overheads eal estate.

lumn No. 12 is the actual return as reflected by the Company's s from 1890 and including 1919—actual net earnings. That e amount they have left after they have paid all operating ex- es. Column No. 13 is the surplus and also the deficits. The surplus is Column No. 11 less Column No. 12, that is the allowable return, or rather the actual return.—no, the allow- able return less the actual return. The deficit is Column No. ss Column No. 11, which is the actual return less the allowable n. In other words, in 1890 they failed by $13,900.00 to earn return on the then value of their properties, including depreciа- reserve. No, the deficits are shown in red and the credits or uses are shown in black.

lumn No. 14 is made up of the surpluses and deficits com- ded, at the rate of eight per cent annually, to and including , from the date of the occurrences of such deficit or surplus, and um of the compounded deficits and the compounded surpluses 70,025.55 in favor of the compounded surpluses. The actual uses exceed the actual deficits by $528,117.51. There were n years when deficits are shown and sixteen years in which the pany made money in the thirty-one years of operation since . In the sixteen years that they made money they made $528,- 51 more than they lost in the fifteen years that they did not e money. The loss of $20,000 in 1918 has been variously ex- ed as being attributable to the war and to other conditions. y say that during a part of that period there were fully eight red houses vacant in Galveston.

ing value has been considered in making my estimates, and I estimated going value as being the deficits or fair return, which des all items of expenses for which the Company did not get equate return. It is reasonable to suppose that the cost of over- s contributed to the early losses. These early losses were later ped by earnings over and above a fair return. In fact, the surpluses, that is total amounts earned over and above a fair n on the value of their property each year, has been greater by 000.00 than the total deficits. In 1915 there is $111,394 earn-

ings put down there. There was one year back as high as $83,
and it run on down $72,000, $68,000.00, $65,000 and $61,00
1916. Those figures are correct but I don't remember having
an analysis. I cannot explain why it appears that the earning
1915 were so large and afterward run all the way down from
000 to a loss in other years.

On my original cost report I have taken into consideration
overhead which was properly chargeable to capital acc
203 and was charged to capital account. All overheads w
were not charged to capital account, or which were cha
to operating expenses, were paid for in operating expenses an
not appear in capital account. And do not appear in my table.
instance, I understand that the Brush Electric Company main
or retains a firm of lawyers to handle their legal business.
matters of organization and legal expense unless directly cha
to capital account would be chargeable to operating expenses,
paid for out of operating expenses, hence paid for through rates
would not appear as a capital charge. Hence, would not appe
my tables of plant values. Such charges as have been mad
capital account in that connection will appear in capital acc
I understand that the Company has an engineer, and they pay
engineer a salary, which salary is charged to operating expe
If that is the case, then it will have been taken care of in oper
expense and paid for through rates for services and does not ap
in capital account. If on the other hand the Company em
special engineers for special work and charged the money paid t
engineers into the cost of the equipment or structure that the
signed, then the charge will appear as a capital charge and wi
included in the capital account.* Then the matter of taxes du
construction. The original plant was constructed in 1881 or
and was put into operation in 1882. The first tax rendition
made in 1883 and the tax payments every year as far back as
records of the Company go include taxes in operating expe
Hence, there will be shown no taxes in capital account because
have been paid for out of operating expense through rates paid
the public. It would be patently unfair to collect taxes from op
tions and then come forward now and ask to have taxes during
struction included in operating expenses. The matter of int
during construction,—it is quite reasonable to suppose that
have paid interest from time to time on money to make additio
plant. At no time have they ever made any single additio
plant that could not have reasonably been completed in four mo
The largest single addition made to plant was in 1911 when
constructed $11,000.00 worth of buildings in addition to their
or original buildings. It is inconceivable that at that
204 it would have taken more than four months to expend
$11,000.00 in construction. Of course, I was not here
there are no records to show how long it did take, but it could
reasonably have taken more than that. In 1907 the largest s
expenditure was made, I believe, of additions to the plant. It

16,000.00, and covered the purchase of two generating units, one 00 K. W. and another 750 K. W. and boilers and auxil-aries and on. A portion of that machinery was purchased on the basis of much down, or twenty-five per cent on the date of delivery, enty-five per cent in thirty days, I believe, and twenty-five per nt in ninety days. There is no evidence, so far as I have been le to find, to indicate that interest was paid on those deferred pay-nts but I am assuming that interest was paid on those deferred yments. As a matter of fact, it required less than four months install that equipment, according to their records, and they were mediately put into operation so that they began to earn a return ctically before they were all paid for. As to the amount of inter- the Company would have paid during construction, my calcula-n hasn't anything to do with the original cost because any inter- they may have paid during construction if it were properly arged, to construction account, would show in capital account. If the other hand interest was a part of operating expenses, and arged to operating expenses, it would have shown in operating penses and would have been paid for through rates.* I have no tail of individual items. For instance, on the generator, I have detail in my original costs of the actual cost of that particular it and the cost of installation and the cost of interest. Simply e total cost as set up on their books was accepted as the cost of the tire equipment, and may have included interest or may not have cluded interest. If it did not include interest, then that interest s charged to operating expenses. It had to be charged to one of e two. If it was charged to operating expense, it was paid for rough rates and service; if it was charged to capital account or th the unit to capital account, then it shows up in the value of ditions to plant. Now, in my reproduction theory, or reproduc-tion estimate, I have estimated that such items of construction as were constructed by a contractor, or rather installed by a contractor and designed by an engineer, that engineering ould apply on it, that five per cent, which is the usual rate and e rate used by Mr. Hamilton on such work that was constructed a contractor. I used the rate of ten per cent which was the rate most universally used prior to the war and which is now still being ed to some extent.

Contractors' expense and profit were excluded from the Agree-ent of August 25, 1920, as to bare-bones value that has been intro-ced in evidence. I allow ten per cent for contractors' expense d profit; Mr. Hamilton allows twelve and a half per cent. That s nothing to do with the cost method. Whatever they paid the ntractor, whether it was ten per cent or twenty per cent, shows as the exact amount that they paid the contractor with no con-gencies or anything else, under the head of Costs. That was at they paid him, and that was the amount allowed regardless whether it was too little or too much.

Every item of expenditure which has been charged to capital count shows up in the plant values in the cost method. Every

item which shows up in the operating expenses has been returned to them through rates through operations; hence no special allowance other than their actual cost has been made for them, and this is one reason why I am an advocate of the Actual Cost method against hypothetical and estimated cost methods. If you assume that such and such a thing was the case at such and such a time as relates to construction and costs and so on, why you have got nothing better than just a guess, while if you accept the records established by the books of actual expenditures and supported by vouchers showing actual amounts paid, there is no question as to the amount of the investment. Now, while I am on that subject and in connection with the Reproduction theory, I want to say that I have used, although I don't believe that it is right, I have used five per cent of the cost of the plant and equipment and distribution system and other items of construction, of $572,181.00 for engineering.* But the engineering did not cost them anything like that on account of the fact that they bought that building
206 down there already constructed. There was no engineering in connection with it so far as they were concerned. They bought it very cheap, they only paid $25,000.00 for the building and the land, but it was a building constructed for the purpose of storing natural ice, constructed in 1881 or 1882. It is thirty-eight years old, and in many instances or many places about it it is in a very bad state of decrepitude, the brick are soft and the general construction is such that it is not particularly well adapted to the purpose to which it was put, but that was constructed and they did not have to pay the engineer anything for it. Their pole lines have been constructed by piecemeal as they were needed and no engineering services have been required except the cost of one dollar each, I believe, for the services of an engineer to establish the location of the poles that were to be set.* One Dollar for each pole 2,907 poles I think. Take the plant right on through, the big turbo-generators, no engineer's assistance was required to design these because the company that sold them sold them with the engineering included. They engineered them themselves. They furnished the plans for the pipe and the plans for the setting, and so on and in the instance of two generations, erected the generators and the price included the erection of them. The first big generator, the Company erected it (that is, the company that furnished it erected it) and the Brush Company paid them for doing it and I have allowed those charges. In fact, I have allowed every charge in connection with the installation of any equipment but no engineering was paid on those items. Now Mr. Hamilton has included engineering on tools and appliances and testing equipment. For instance, tools and appliances consist of spades and hammers and stilson wrenches and various and sundry other things. While it is a small matter in itself, by the time he has pyramided it by adding the various percentages on down, first, contractor's expense and profit, on spades, shovels and picks and wheelbarrows and various and sundry other instruments * * * The items of distribution system and power plant equipment contain something like

our or five thousand dollars' worth of tools and equipment and sting appliances, and so on, wrenches and hammers, spades and shovels, and various other things. Now the Contractor's 07 profit on that, on that part of the equipment, is twelve and one-half per cent. It was not necessary for a contractor to onstruct a wheelbarrow, or a shovel, or a Stilson wrench, or to pervise the purchasing of it. The figures on all that show up in e two reports. Now Mr. Hamilton has twelve and a half per nt. on those items. Omissions and Contingencies add another ve per cent to the original twelve and a half per cent; then engi-eering comes onto the original of the other two. In other words is compounded right along. The have organization and legal pense in connection with those spades and shovels and so on, d organization and legal expense is also included on $15,000.00 rth of office equipment. I don't understand that it is necessary pay any organization *and* legal expenses in connection with e establishment of an office and the equipping of it with type-iters and chairs and desks and so on. That is one of the fallacies the Reproduction theory of valuation. Then interest during con-uction is also included on that. There is the interest during con-uction on the office typewriter and on the office chair, desk, sta-nery—not stationery, but stationery file, and so on. When you down to the last analysis, it adds about thirty-four per cent to e cost of those items.

In my examination I found that Brush Electric Company was nducting a merchandise department in connection with its busi-ss. The Company operates a department in connection with its ices for the sale of electrical merchandise. Ordinarily such a partment would not be a necessary or essential element of the siness, but in this particular in-tance we are of the opinion that provides a legitimate means for increasing the volume of the mpany's business, as every electrical appliance sold will increase consumption of current to the extent of the requirement of the pliance. This being the case, the profits or losses of this depart-nt should be credits or debits, as the case may be, to capital ac-nt, just as is the cost of advertising or the salaries of solicitors. e merchandising department of the Company's business has, to s time, been operated at a net loss. The department was estab-hed in 15 and the losses are, by years, as follows:

8 1915	$15,566.57
1916	12,476.92
17	10,009.84
18	10,476.48
19	9,637.30
Total	58,167.11

We are of the opinion that losses such as the above should be luded in Going Value; however, as the Comany has charged them Operating Expense, and as the gross earnings of the Company

have been sufficient to cover the operating expenses and deductions for depreciation, together with a fair return on the value of its properties, we are not adding the amount of these losses to capital values to be paid for again in rates for service.

This Table shown on page 72 of my Report to the Board of Commissioners of the City of Galveston, Part 1, (Exhibit 16) headed "Comparative Income and Expense Statement Sales and New Business Department" has been agreed upon as being correct.

Defendants introduced in evidence the Table referred to by the witness, which is as follows:

Comparative Income and Expense Statement, Sales and New Business Department, Brush Electric Company, Galveston, Texas, for the Years 1915-1916-1917-1818-1919.

Income:	1915.	1916.	1917.	1918.	1919.
Sales:					
Fans and Motors	0	21.50	1,276.60	2,470.08	5,689.53
Lamps	0	2,633.64	5,834.06	7,339.05	11,445.02
Appliances	0	1,050.89	11,392.62	24,220.57	35,890.41
Signs	0	1,326.98	1,371.52	1,217.20	1,348.33
Miscellaneous	1,242.86	31.06	217.50	6,060.96	1,619.58
Wire	0	0	0	99.92	373.85
Shades and Fixtures	0	0	0	0	3,993.60
	$1,242.86	$5,064.07	$20,092.30	$41,407.78	$60,360.32
Less: Returns and Allowances	0	0	171.04	875.50	2,849.36
Net Sales	$1,242.86	$5,064.07	$19,921.26	$40,532.28	$57,510.96
Cost of Goods Sold:					
Purchases	$1,025.70	$4,433.43	$15,570.13	$30,154.45	$43,195.89
Miscellaneous Supplies, Etc.	674.68	.55	24.90	114.58	401.11
	$1,700.38	$4,433.98	$15,595.03	$30,269.03	$43,597.00
Gross (Loss Profit)	*457.52	$630.09	$4,326.23	$10,263.25	$13,913.96

[*Red in copy.]

Comparative Income and Expense Statement.—Continued.

Expense Installation:	1915.	1916.	1917.	1918.	1919.
Miscellaneous Supplies and Expenses	$3,453.58	1,208.70	626.47	322.70	1,467.83
Labor	1,132.60	1,259.40	184.00	481.55	708.42
	$4,586.18	$2,468.10	810.47	804.25	2,176.25
Less: Charges to Customers	4,420.87	676.52	352.94	281.62	325.08
	$165.31	$1,791.58	$457.53	$522.63	$1,851.17
General and Selling:					
Clerical Salaries	$2,126.80	$2,108.05	$2,234.25	$2,881.70	$3,454.45
Solicitors' Salaries	1,810.00	1,953.15	$2,211.65	$2,465.95	3,717.29
Commission to House Salesman	0	0	254.74	986.13	1,208.19
Commission to Solicitors	0	0	1,150.27	3,011.91	5,477.15
Miscellaneous	1,600.86	307.61	722.73	638.16	540.35
Garage	0	0	70.00	62.00	95.69
Sales Advertising	0	5,270.78	4,172.33	4,184.19	3,159.78
General Advertising	4,381.82	1,291.20	6,794.44	1,103.94	1,047.17
Total Expense	$10,084.79	$12,722.37	$18,067.94	$15,856.61	$20,551.24
Operating Loss	*10,452.31	*12,092.28	*13,741.71	*5,593.36	*6,637.28

Other Deductions:					
Current used by Company Charge to Miscellaneous Expense	13.02	7.15	18.53	35.11	53.98
Sales Advertising	0	37.06	54.90	114.88	254.89
General Advertising	122.90	338.68	324.70	464.31	671.15
	$135.92	382.89	398.13	614.30	980.02
Bad Debt Losses	0	1.75	70.00	365.70	620.00
Expense deferred from prior year charged to operations during year	4,888.34	0	0	3,903.12	1,400.00
	5,024.26	384.64	468.13	4,883.12	3,000.02
Less: Expense deferred to future Oper.	0	0	4,200.00	0	0
	$5,024.26	$384.64	$3,731.87	$4,883.12	$3,000.02
Net Loss	*$15,566.57	*$12,476.92	*$10,009.84	*$10,476.48	*$9,637.30

(*Red in copy.)

210 Resuming his testimony the witness continued:

With reference to the item of Stock in Store (Page 74, Report to Board of Commissioners) the amount allowed for working capital is intended to cover the value of all materials and supplies and fuel on hand in any one month, hence no additional amount is allowed for "Stocks and Stores." Electrical appliance stocks are not included in any instance as having no bearing on the proper value for rate purposes. Their merchandise department is separate and distinct from the business of purveying current and is a competitive business. There are other establishments in town which handle electrical appliances and the amount of materials and supplies on hand each month is intended to be covered by the amount of working capital. That is what working capital is for, to supply sufficient funds for the payment of current bills, for materials and supplies necessary in the operation of the plant. Those materials and supplies go into the maintenance of the plant.

A description of the Brush Electric Company's plant is as follows:

The generating plant of the Brush Electric Company is located on the Southwest corner of Avenue E and Twenty-sixth Street, in the City of Galveston, Texas.

The plant has an equipment of four alternating current generating units, with a total normal capacity of 3,200 Kilo-watts; two rotary converter units, with a total normal capacity of 800 Kilo-watts, direct current and two motor generating units, with a total normal capacity of 400 Kilo-watts, direct current. These two motor generating units, while not strictly modern, are in fairly good condition and seem to give good service. The other equipment is of modern design, has been well kept and is in good condition. One of the steam turbine generators is equipped with a "jet" condenser, one is equipped with a "barometric" condenser and the other two are equipped with "surface" condensors. The "jet" condenser equipment seems to be inefficient and expensive to operate and the

"barometric" condensor, so we understand, does not produce

211 satisfactory results. We are advised that these two items of equipment are to be removed and replaced with "surface" condensors, which change, we believe, will materially increase the efficiency of the plant.

The boilers are of modern design and are in fairly good condition on the whole. Other equipment, consisting of pumps, recording apparatus, fuel oil tanks, etc., as listed in "Inventory," is in good condition, having been well kept up. The boilers have three metal smoke stacks and one brick smoke stack. The metal stacks, with one exception, seem to be in good condition for their respective uses, but the brick stack is in a bad condition. It is not known when this brick stack was built, but it is supposed to have been constructed about 1885, when the predecessors of the present Company acquired the building. As this stack is too small and its condition, we believe, dangerous, we consider it a liability, rather than an asset, the cost of removing it will exceed the value of the material which might be salvaged from it.

There is a cooling tower at the north end of the building for cooling condensor water. This tower is constructed of wood, over a brick and concrete well, is adequate in size and produces satisfactory results. The tower is well constructed, but the exterior louvers and the water distributed troughs are in need of repair, at this time.

The plant is equipped with certain machine tools-lathe, power drill press, shaper and grinding stand—with which ordinary repairs can be made, thus saving expense and delays; the machines are not new, but are in good working condition.

The equipment is housed in a brick structure, with wood framed interior. The main, or original, portion of the building was constructed in, or about 1883, and was originally designed for the storage of natural ice. The main walls are four feet and five inches thick, with alternate air spaces every double course of brick, or eight inches. Although it was substantially constructed, it is now in poor condition and will not, in our estimation, serve for its present purpose for more than ten or twelve years longer. A new roof has recently been constructed over the main portion of the building, the need for which was occasioned by a fire which gutted the interior of the building in 1919.

212 Additions have been made to the original building, as indicated on Plate No. 1; these additions are in a fairly good condition and it is possible that, when the time comes to replace the original building, the additions may be utilized, so as to conserve the values in them. On the assumption that this will be done, we are considering these additions will have a life of fifty years and are depreciating them accordingly.

On the whole, the building is poorly adapted, we believe, to its present uses. If the Company's equipment were housed in a building specifically designed for it, we are of the opinion that fewer operatives would be required than are now necessary and that more economic operation could be had. The present building has no crane, or other hoisting equipment, in it, the lack of which increases the cost of making necessary repairs to the various generating units. The generating units are so arranged that it would be difficult to provide an over-head crane that would serve all of them. Portions of the floor space are over-crowded with equipment, particularly on the ground floor, and other portions are not utilized, presumably on account of the fact that the lighting of the main portion of the building is not good.

There is no evidence of unusual costs of having been experienced in the construction of the building, or other portions of the plant.

Distribution System.

The distribution system is all over-head, with the exception of a cable across the Ship Channel. The poles are all of wood. The City of Galveston owns the distribution system for street lighting, the Company furnishing the current therefor, only. The system is in good condition, having been well kept up.

Character of Service.

The Company has provided an adequate number of automa
regulators for the purpose of keeping the electrical pressure consta
and up to such standards of efficiency as to make the service render
satisfactory, even to the most remote sections of the territ
served.

213 The service in Galveston compares favorably with that
any other city of its size. The equipment and lines are w
maintained and the entire property kept in as good condition as
practicable.

NOTE.—No attempt is made to reproduce the Plate No. 1 refer
to by the witness, but it appears on page 81 of original Exhibit
which is certified and sent up to the Supreme Court by the Distr
Court.

The table on page 89 of Part I, Exhibit 16, is a Profit and L
Account covering the operations of the Company prior to 19
taken from the books of the Company. It reflects just what
books of the Company show. There is nothing in there for the ye
1911, 1910, 1909, 1908, 1907, 1906 and 1905. That was prior
1912. This statement is simply to support Table No. 2. T
statement is supposed to cover the time from 1910 to 1911, a
for the years 1905 to 1911, inclusive, there is nothing stated un
the head of Net Profit in that column. If you will notice two c
umns further along, however, that the net profit adjusted, th
were no adjustments in those years; the net profit as shown by
books was used; the net profit adjusted. The reason for that
there were some charges made which were not proper charges, a
those charges were adjusted on this sheet, shows those adjustme
and the depreciation extracted.

The statement is in agreement with the books of the Compa
so far as the total results are concerned, but not as the books g
it. You will notice the first two columns there, total by years
books, debits and credits, net profits per books, then the adj
ments, debits and credits, net profits adjusted, the adjustments be
mine. It does not affect the net result of your operations. It s
ply allocates the items with respect to the matter of depre

214 tion, plant account, dividends paid in stock, surplus tra
ferred, all of which are in agreement with your books.

"Note B. Dividends" (extreme right-hand edge of page
refers to dividends paid. It shows there for the year 1899, $
220.00 dividends; in 1904, $125,000.00; in 1909, $25,000.00;
1910, $100,000.00; in 1911, surplus of $140,879.09. I don't kn
what became of that surplus.

The tables on pages 90 to 93 inclusive (Part 1, Exhibit 16)
copies of the opening journal entries of the Brush Electric Li
and Power Company.

At this point defendants introduced in evidence pages 90 to 93 inclusive of Part 1 Exhibit 16, which are as follows:

(Page 90 of Exhibit 16.)

Opening Journal Entry.

Brush Electric Company, Galveston, Texas.

April 1st, 1912.

Sundries		$78,872.78
To Plant and Investment:		
60. Fuel	350.13	
71. Oil	27.28	
72. Wire	2,353.62	
80. Cross Arms	456.49	
88. Poles	1,704.85	
00. Electric Supplies	850.07	
10. Appliances	553.58	
20. Appliances loaned	90.00	
70. Prepaid Insurance (fire, $1,632; boiler, $137.52; auto, $362.28; bonds, $45.79)	2,177.59	
00. Electric Bills	18,170.85	
20. Electric Arrears	7,007.34	
30. Petty Ledger	926.19	
40. Cash in Office	44,204.79	
Being all Assets of Brush Electric Co. acquired through purchase of property of the Brush Electric Light & Power Co., as of March 31st, 1912.		
Plant and Investment	69,606.67	
To Sundries:		
34. Advance Collections (W. A. Gayton Line Est.) deposit $54.10—Advances posted as El. Bills 167.95)		222.05
36. Special Salary Reserve		120.00
78. Bad Debts Reserve		300.00
00. Accounts Payable		10,718.33
10. Consumers' Deposits		1,789.75
30. Accrued Taxes		1,005.00
20. Accrued Legal Expense		62.52
76. Surplus		55,389.02
Being all Liabilities of the Brush Electric Light & Power Co., Assumed by Brush Electric Co., as of March 31st, 1912, in accordance with terms of purchase agreement of property.		

215 (Page 91 of Exhibit 16.)

Additions to Plant and Investment.

Brush Electric Company, Galveston, Texas.

1912.		Dr.	Cr.
Apr. 1.	Advance Collections	$222.05	
	Special Salary Reserve	120.00	
	Bad Debts Reserve	300.00	
	Accounts Payable	10,718.33	
	Consumers' Deposits	1,789.75	
	Accrued Taxes	1,005.00	
	Accrued Legal Expenses	62.52	
	Surplus	55,389.02	
	Fuel		$350
	Oil		27
	Wire		2,353
	Cross Arms		456
	Poles		1,704
	Electric Supplies		850
	Appliances		553
	Appliances Loaned		90
	Prepaid Insurance: Fire, $1,632; Auto, $362.28; Boiler, $137.52; Bonds, $45.79		2,177
	Electric Bills		18,176
	Electric Arrears		7,007
	Petty Ledger		926
	Cash in office		44,204
		$69,606.67	$78,872
	Balance		$9,266.

The above balance shown is result of opening entry, shown ab in detail, when Brush Electric Light and Power Company chan hands to Brush Electric Company.

The above balance is not included in arrising at our balanc Plant and Investment, here and after shown.

[*Red in copy.]

1912. Charges:

Electric Plant	$2,364.26	
Lines and Poles	7,835.63	
Transformers	8,199.02	
Meters	5,841.92	
Times Switches	1,125.16	
Tools and Instruments	400.06	
Office Furniture & Fix	341.57	

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(Page 92 of Exhibit 16.)

1912. Charges (Continued):			
Wagons and Teams	300.00		
	$26,407.62		
Net Additions from April 1st through December, 1912			$26,407.62
1913. Balance per books Jan. 1st.			26,407.62
Charges:			
Organization	$11,404.06		
Lines and Poles	14,560.94		
Buildings and grounds	2,680.11		
Transformers	6,520.37		
Meters and Connections	8,486.26		
Time Switches	129.66		
Office Furniture & Equip	715.18		
Automobiles	2,238.92		
Tool Investment	157.50		
Miscellaneous Equipment	450.43		
Underground System	1,545.97		
		$48,889.40	

Less:			
Power Plant and Sub Station	15.65		
Teams and Wagons	89.25		
		104.90	
Net Additions for 1913			$48,784.50
1914. Balance per books Jan. 1st			75,192.12
Charges:			
Power Plant and Sub Station	551.00		
Lines and Poles	5,391.33		
Transformers	2,895.61		
Meters and Connections	2,663.87		
Time Switches	1.70		
Office Furniture & Equip	16.34		
Barn & Garage	25.50		
Miscellaneous Plant and In	940.19		
		12,485.54	
Net Additions for 1914			$12,485.54
1915. Balance per books Jan. 1st			87,677.66
Charges:			
Buildings and Grounds	477.90		
Power Plant and Sub Stat	4,218.47		
Lines and Poles	3,537.44		
Transformers	2,977.71		
Meters and Connections	6,020.72		
Office Furniture & Equip	756.66		

Miscellaneous Equipment		13.05	
Net Additions for 1915			$20,207.35

217

(Page 93, Exhibit 16.)

1916. Balance per books Jan. 1st			$107,885.01
Charges:			
Power Plant & Sub Station	$779.02		
Distribution Lines & Poles	4,529.56		
Transformers & Connections	1,571.86		
Meters and Connections	5,738.03		
Office Furniture & Equip	902.88		
Miscellaneous Equip.	1,280.11		
		$14,801.46	
Less: Amount Charges to Barn and Garage Equip		574.10	
Net Additions for 1916			14.227.36
1917. Balance: per books Jan. 1st			$122,112.37
Charges:			
Power Plant and Sub Stat	10,419.19		
Distribution Lines & Poles	3,162.80		
Underground System	130.10		
Office Furniture & Equip	462.85		
Barn & Garage Equip	53.40		
		$14,228.34	

Less: Amounts charges to			
Transformers & Connect	497.68		
Meters and Connections	4,653.62		
Miscellaneous Equip.	528.66		
		5,679.96	
Net Additions for 1917			8,548.38
1918. Balance: per books Jan. 1st			$130,660.75
Charges:			
Power plant & Sub Stat	$2,791.98		
Distribution Lines & Pol	1,486.80		
Underground System	649.13		
Office Furniture & Equip	151.98		
Barn & Garage Equipment	10.95		
		5,090.84	
Less: Amount charged to Meters and Connections		480.40	
Net Additions for 1918			4,610.44
1919. Balance: per books Jan. 1st			$135,271.19
Charges:			
Power Plant & Sub Stat	1,064.00		
Distribution Lines & Pol	3,126.17		
Meters and Connections	814.72		
Office Furniture & Equip	426.77		

Less: Amounts charged to			
Transformers & Connections	70.64		
Barn & Garage Equipment	2,571.80		
		2,642.44	
Net Additions for 1919			3,071.94
1920. Balance: per books Jan. 1st			$138,343.13

218 Resuming his testimony the witness continued:

The statement on page 94 (Part 1, Exhibit 16) is Storm Expens the amount of expense occasioned by the storm, and the charges this account charged off against operations each year. That is take from the books of the Company.

At this point defendants introduced in evidence statement on pa 94 of Part 1, Exhibit 16, which is as follows:

(Page 94, Exhibit 16.)

Storm Expense.

Brush Electric Company—Galveston, Texas.

		Charged to		
	Actual.	Salvaged.	Operations.	Credits.
1915. Balance per books Jan 1...	23,305.74	685.39	700.00	21,920.35
1916. Balance per books Jan. 1...	953.53	706.65	8,967.23	[8,720.35]
1917. Balance per books Jan. 1...	1,462.37	—0—	12,962.37	[11,500.00]
1918. Balance per books Jan. 1...	461.81	—0—	1,700.00	1,700.00 [1,238.19]
1919. Balance per books Jan. 1...	1,962.80	—0—	1,000.01	461.81 962.79
1920. Balance per books Jan 1.....				1,424.60

219 Resuming his testimony the witness continued:

That Storm Expense, by the way, is a proper charge to depreci tion rather than to Operations.

Page 95 (of Exhibit 16) is Fire Adjustment, expense accou That was a loss occasioned by the fire which occurred in 1919. Th loss was partly covered by insurance, and the insurance received w $11,422.00 during 1919, and $13,247.99 charged off during 191 $13,247.99 was the total loss over the recoveries from insuran Mr. Hamilton has charged that all off at one time and it appears i his Operating Expenses for 1918, $13,274.99, and that is one the reasons for the deficit that he has. Instead of apportioning th over several years the total amount is charged off in one year. Th is a matter of immateriality, however, because it is past and go and it will have to be paid back.

The year 1919 was adopted for fixing rates. This suit was co menced September 1919. The matter of rates is taken up on page

*[Red in copy.]

of my report; that completes my report upon the cost basis and the estimated valuation made by me upon that basis.

At this point defendant introduced in evidence Fire Adjustment statement, appearing on page 95 of Part 1, Exhibit 16, which is as follows:

(Page 95, Exhibit 16.)

Fire Adjustment—Suspense.

Brush Electric Company, Galveston, Texas.

		Credits.		
	Cost of repairs.	Charged to operation.	Insurance received.	
1918. Balance per books Jan. 1	103.85	.....	20,723.57	
...				*20,619.72
...				*20,619.72
1919. Do.	47,566.99	2,250.00	11,422.28	
				33,894.71
1920. Do.	.....	.....	.....	13,274.99

At this point defendants introduced in evidence Parts 1 and 2 of Exhibit 16, Part 1 being Mr. Elrod's Report made to the Board of Commissioners of the City of Galveston, and Part 2 being Inventory, Appraisal and Valuation of the properties of Brush Electric Company.

Resuming his testimony the witness continued:

I don't know whether Mr. Hamilton has seen the inventory shown in that report (Part 2) or not. However, Part 2 is substantially a copy of the inventory contained in Mr. Hamilton's report. There may be some minor differences but they are supposedly adjusted to be substantially the same.

This inventory purports to show the properties of the Company now in use. The items going into the inventory were arrived at by an actual count and inspection of the property. The inventory shows the date of the installation of the various component parts of the property, which information I got from the records of the Company. I think that this inventory made by me, based on the records, correctly reflects the date of the installation of the various parts of it. In determining the amount of depreciation on these several items I used the Straight Line Method of depreciation, that is, the multiplication of the rate of depreciation established by engineers generally by the age of the unit of equipment for the percentage of total

*[*Red in copy.]*

depreciation. The rates or tables that I used are the rates tha
established by the various utility commissions, engineers, Sto
Webster, Byron J. Arnold, Wisconsin Railroad Commission, Chi
Traction Commission, St. Louis Public Service Commission, a
number of other authorities on the matter of appraisal of public
ities. I would therefore say that I used the standard and appr
methods of depreciation as usually applied when the Straight
Method is used. Where the Straight Line Method of depreci
is used, the rates are pretty well in agreement; that is, the engi
use practically the same rates. Of course, circumstances often
something to do with the application of the rates, and the app
tion of the rates is always made in connection with a cer
221 amount of investigation as to the conditions that surro
the use or character of equipment.

I took the reproduction cost of this property at pre-war price
agreed to between Mr. Hamilton and me, and then from the b
ascertained the age of each piece of equipment now in use, and
plied the Straight Line Method of depreciation, and reached
total shown by this report as the present value of the property
added something to that for intangibles. In determining value
be added to a plant such as this as shown in the inventory, e
neers do not, so far as I know, agree on arbitrary percentages in t
cases as they do in figuring depreciation. In the matter of
tractor's expense and profit however the contractor's profit prio
the war was almost universall- ten per cent, and even yet there
some contractors who accept contracts on the basis of ten per c
cost plus ten per cent. But in determining the valuation of a pl
it depends on the engineer as to whether he looks to the books of
Company to determine the amount that was actually expended
such items, or applies some arbitrary percentage. Ordinarily
proper way to ascertain the cost of such items is reference to the C
pany's books, where the books are complete enough to indicate w
the contractor's profit has been; and I might add that the Reprod
tion Theory of valuation is intended mostly as a method where bo
are not available. If records had always been available I beli
there would be no Reproduction Theory or Method of valuati
but in the early history of public utilities records were not kept w
sufficient accuracy or clearness to indicate what the values we
Consequently, it was necessary to devise some means of valuing t
property and they have done it by the Reproduction Method.

A great many engineer- use in reproduction estimates from fi
to five per cent on values for "Errors and Omissions." I don't b
lieve, however, that it is proper. I would add such percentage
only a portion of the plant—certainly not to the real estate or su
items where there could not be a possibility of under- or over-coun
It is customary in counting poles or wire, cross-arms, and such su
parts of the equipment, to be liberal in the count; there would
little occasion for errors in that, and no real logic to it for a man
say that his counting ability was between ninety-five a
222 ninety-seven per cent efficient, that is, to admit that he co
count one hundred poles without making a mistake of fi

three to five. I am not in the habit of allowing it. I have been making my figures on items where there is a possibility of an under- or over-counting. I am careful as I can be and then use the next highest figure in most instances to make up a possibility of errors and omissions. Take, for instance, Engineering and Supervision. I do not believe those items are properly added to equipment, say, furnished by contractors, because that equipment, such engineering as is necessary has been performed, and the price of the equipment as purchased includes the engineering. They design the plant, design the machines with their own engineers, and furnish us the designed machine. There are very few engines that are specially designed, that is, that are especially designed for a plant of this character. A 1,000 K. W. generating unit would be designed and a number of machines made of the same design, and the price of the manufacturer of that equipment includes the cost of the designing as far as the installation of the machinery is concerned. As a rule the plant manager knows what additions he wants to make to his plant, and if he does not his engineering department does, and they specify a certain capacity of machine. The seller furnishes all necessary foundation plans from sketches furnished by the purchaser; they sometimes supervise the installation of it and furnish a factory man for doing that. Of course he is paid for it in that case. The cost of installation should be a proper charge to capital account because it is an addition to the cost of the machinery. As previously stated, I don't believe that a fee of five per cent for engineering should be *be* included although I have allowed that amount against all items of construction. I think it is too much because the distribution system, for instance, grows. The original engineering, paid for planning the system, is a proper charge, but after that time such engineering as is done to extend the system is done by the Company's engineers who are on a salary and whose expenses and salaries are charged to operating Expense. "Organization and Legal Expense"—the safest method of determining that is to accept such records as the Company may have of the cost of organization and legal expense. And such
223 expenses are only incurred at the time of the organization of a business or of a transfer of the business, or any special happenings to the business. There is an item in there, book values, covering organization and legal expense; it was $11,404.06, paid for legal expenses and drawing a charter and doing such other things as were necessary in connection with the transfer of the property in 1912 from the Brush Electric Light and Power Company to the Brush Electric Company. I made allowance for that. "Taxes During Construction"—I have made allowance for taxes during construction; I believe they should not be allowed unless there is evidence on the Company's books of expenditure for taxes during construction. In this particular instance the taxes have been charged to Operating Expense, and if there had been any allocation of taxes during construction to any items I have been unable to find them. I have already made my explanation of the amount I have allowed for "Working Capital." "Interest During Construction"—I have made an

allowance of two per cent on all items of construction. That does not include any of the plant tools or appliances or testing equipment or office furniture, or fixtures, or anything except such items as were constructed. Engineers do not generally agree on the amount to be added in a case of that character under that item. That is usually a matter of dispute as to the period required for the construction of the various items, or the plant as a whole, and the rate of interest whether it should be six or eight per cent. I made an allowance of ten per cent of the estimated gross earnings for the year 1920 for Working Capital and for Materials and Supplies, and from an examination of the records of the Company I am of the opinion that that is ample for their needs. I have already gone over "Going Value" in a general way. This was a going concern at the time the present plaintiff purchased it, in 1912. The views of valuation engineers in a case like that, that is where a going concern has been purchased after it has been constructed and in operation, are usually diverse—it depends upon the side of the question the engineer is on, usually. If the concern is a going entity and earning money, I would be inclined not to allow anything for going value other
224 than the value of the property as a going concern, as distinguished from property without business which would have to be dismantled and disorganized. For instance, if you take this plant down here, if tomorrow morning, or within the next week or ten days or two weeks, the Brush Electric Company were to find that on account of the fact that the Galveston Electric Company had rates to the point where they could not compete with them, and all of their patrons had left them and they have no business, there would be nothing for them to do but to cease operations. If they ceased operations, they could find no purchaser for their plant as a going concern. It would not be a going concern. The property would be there in all of its elements, but it would not be a going concern, and the only thing that could be done with it would be to dismantle it and remove it. To dismantle it and remove it, the component elements would be worth only a certain secondhand junk value, many of them, and many of the elements of construction, such as money paid for the contractor's profit and engineering and so on, would be destroyed, and the difference between these items, the contractor's profit and engineering, and organization, and various other things that enter into the construction of the building to make it a going concern with business attached and earning money, would be lost, and the difference between the plant which would have to be disorganized and the component parts if distributed and sold, and the value of the plant as a going concern is the value of the going concern. It is reasonable to suppose that at the time the present Company purchased this property in 1912 they took into consideration in the purchase price the going value—to the extent that they paid the present, the then value of the plant, for the plant, rather than a premium for the plant because it was operating.

Defendants introduced in evidence Part 1 of Exhibit 16, being Part 1 of Mr. Elrod's Report to the Board of Commissioners of the

City of Galveston, and certified by the Special Master as a part of the evidence introduced on the hearing of this cause before him as "Exhibit No .13;" and the same will not be copied in the statement of Evidence, but the original will be certified and ordered sent
225 up to the Supreme Court by the District Court and the Judge thereof.

Resuming his testimony the witness Elrod continued:

Referring to Part 2 of my Report to the Board of Commissioners of the City of Galveston which contains my Inventory, Appraisal and Valuation of the properties of the Brush Electric Company, and particularly to the photographs shown therein, the first photograph is an exterior view of the power plant of the Brush Electric Company. The second photograph is an interior view of the boiler plant of the Brush Electric Company. The third view is an interior view showing the converter sets. The same view indicates the character of the construction of th building, and some apparent defects in the masonry. The next photograph is an interior view showing the turbo-generators. The next photograph is an interior view showing the switch boards. The next photograph is an exterior view showing the southwest corner of the building and indicates the condition of the smoke stack for boiler No. 2. This photograph was made before the removal of boiler No. 2, which has been taken out since the first of this year. All of these photographs were made by the Maurer studio under my supervision or direction and were made during the month of April, 1920, if I remember correctly. This last photograph indicates that the smoke stack on boiler No. 2 is rusted off above the first guy band.

The capacity of the prime generating units is 3,250 K. W. That capacity is largely in excess of any demand that has ever been made on the plant. The highest peak demand that there is any record of was 1,950 kilowatts. That would indicate that the biggest demand ever made was 1,950 kilowatts as against 3,250 kilowatts capacity, an excess of 1,300. It is customary to have 25% of the requirements as excess capacity. However, that custom is varied in various places to suit conditions. In this particular instance I see no reason why an excess capacity of more than 25% should have been provided for. Ordinarily, modern turbo-generators are able to stand at least a 25% overload for a short period, usually about equal to the peak period,
which rarely ever exceeds an hour. On that basis, a 1,950
226 kilowatt capacity plant would ordinarily take care of a 25% overload for a short period, so that it would not be necessary to have a full capacity to take care of a slight increase in the normal capacity of the plant. However, it is customary to provide an excess capacity. After making allowance for the excess capacity of 25% generally provided for I estimate the excess to be 700 kilowatts. As the then cost of similar equipment, which is $100 per kilowatt, that would represent an excess of investment in the plant of $70,000.00.

The General Electric Company, which operates the street railway system in Galveston, also purveys current for electric light and power.

I have had occasion to study that plant too. I am not able to state offhand what is the comparison of the amount of business done by each, because I don't remember the exact figures; but my recollection is that the Galveston Electric Company, in addition to furnishing current for the operation of the cars, does a business equal to about half of that; that is, the total business for electric light and power is about half of that which is done by the Brush Electric, or perhaps a little more than half. The total kilowatt capacity, however, of the plant is 1,475, which is much less than half or is less than half of the capacity of the Brush Electric.

It is my opinion that the cost of producing current by the Brush Electric Company for the year 1919 has been high. There are two or three reasons for it and probably the principal one is the "line losses" which are admittedly high. By that is meant losses in current, in the distribution system, through transformers and resistance of wires and so on—leakage. In all systems there's always a loss of current in the transformers of current and a wire,—an electric wire or conductor may be likened to a pipe carrying water. The amount of current that flows through the wire is measured in volts and the pressure of the current, compared to the pressure of the water, is measured in amperes, and when the pressure goes off for any reason the voltage is reduced. The resistance offered by the wire causes a corresponding loss in pressure, just as the resistance offered by a long pipe line reduces the amount of water that can be delivered through a certain pipe.

My criticism of this particular plant is this:

227 The wiring system has grown; that is, the additions, extensions, and so on, and some of the transformers are overloaded and the wires have taken a long distance from transformers instead of putting a transformer nearer to the ultimate point of destination, why it has been left as it was and a long wire strung from it, and so on. In other words, the system has not been revised up to date to keep up with the progress and the growth of the plant, and then, I understand, there has been a considerable amount of current stolen, that is current would be jumped around a meter by wiring around the meter and cutting the meter out. That is not an uncommon thing and they say that it has been practiced in Galveston to some extent. That would show up on the Company's books as a line loss because the current is metered at the plant and metered at the ultimate point of distribution. The difference between the two represents the loss.

I think the outlook for the Company in the matter of increasing its business and increasing its earnings in the future is very good. The business of the Company as indicated by their books has been growing steadily and the Company has enjoyed a good business so far this year. Their net earnings for the first six months have amounted to more than $50,000,000 and they are constantly attaching new business. They have right recently laid a cable across the channel to Pelican Island, so I understand, and I understand also that the Company has contracted for 2,000 H. P. of business on Pelican Island which will increase their revenues to a very con-

siderable extent without materially increasing their overhead expense or investment. In fact, the only material increase in their investment will be the cost of the cable and the laying of the cable because they have ample station capacity to take care of the added load and, as Mr. Hamilton testified, the motor load is a very desirable business for the Company on account of the fact that they are able to run their equipment profitably during the day or "off-peak" periods and thus allow the equipment to earn money, when otherwise if they had no motor load the equipment would be running comparatively light and would be expensive to operate, it would cost practically the same to operate it with the exception of the fuel on a light load as on a heavy load. It takes the same number of
228 operators and the same amount of overheads, office force, and so on, to operate the plant on a light load as it does on the heavy load, the only difference in the cost being that of fuel and perhaps some slight additional plant extension. The nature and character of the business to be served on Pelican Island is industrial plants; I don't know that there are any residences there. I do not know when that additional business will be taken on by the Company, and I have never seen the alleged contract covering the 2,000 H. P. power load.

At this point defendants introduced in evidence Exhibit No. 2 of Mr. Elrod's Report to the Board of Commissioners of the City of Galveston which is marked "Exhibit 17*a*" and certified by the Special Master as a part of the evidence introduced on the hearing of this cause before him as "Exhibit No. 17*a*;" and the same will not be copied in the Statement of the Evidence, but the original will be certified and ordered sent up to the Supreme Court by the District Court and the Judge thereof.

Defendants also introduced in evidence "Summary of Inventory, Brush Electric Company" the original of which is marked "Exhibit 17*b*" and which is as follows:

229 *Summary of Inventory.*

Brush Electric Company.

Item.	Cost.	Dep'n.	Present value.
Real Estate	$20,000	.....	20,000
Structures and Buildings	70,000	$40,880	29,120
Boiler Plant Equipment:			
Boilers	55,747	38,440	17,307
Draft Flues	12,425	12,015	410
Blow-off System	673	420	253
Oil Handling System	4,760	2,638	2,122
Feed Water System	6,821	2,813	4,008

Item.	Cost.	Dep'n.	Present value.
Generating Equipment:			
Turbo-Generators	116,545	66,836	49,709
Switchboards and Station wiring	7,344	2,350	4,994
Exciter System	1,360	136	1,224
Circulating Water System	15,476	10,600	4,876
All Plant Piping	17,044	10,314	6,729
Converting Units:			
Motor Generators	16,910	10,991	5,919
Rotary Converters	17,214	6,167	11,047
Miscellaneous Power Plant Equipment:			
Compressor and Compressed Air System	198	128	70
Machine Shop Equipment	1,112	556	556
Tools and Appliances	1,000	500	500
Distribution System:			
Poles	39,989	17,638	22,351
Guys	4,013	1,204	2,809
Transformers in Service	60,001	18,000	42,001
Transformers in Reserve	3,176	318	2,858
Cross Arms, Pine and Insulators	9,194	2,657	6,537
Wire	66,706	25,015	41,691
Meters in Service	44,898	13,469	31,429
Meters in Reserve	3,125	.....	3,125
Miscellaneous	2,250	1,125	1,125
Special Customers' Installations	1,500	495	1,005
Testing Equipment	2,500	750	1,750
Tools and Appliances	1,000	1,500	500
General Office Equipment:			
Furniture and Fixtures	11,270	2,930	8,340
Utility Equipment:			
Automobiles and Garage	6,559	2,559	4,000
Total	$620,837	292,441	328,396
Total Undepreciated Present Value	600,837		
Total Depreciation Extracted	292,441		
Total Depreciated Present Value	328,385		

230 The foregoing figures were prepared before entering into an agreement fixing the undepreciated cost of the "bare bones" of the properties of the Brush Electric Company at $576,898. The cost of each item of construction includes Engineering Costs and Contractors' Expense and Profit, the sum of which, undepreciated, is $85,827; to reduce the foregoing figures to "bare-bones," this sum is extracted from the totals given, as follows:

	Cost.	Dep'n.	Present value.
Totals	$620,837	$292,441	$328,395
Engineering, 5% on $572,180	28,609	.....	28,609
Contractors' Expense and Profit	57,218	28,490	28,728
	$535,010	$263,951	$271,058
Total "Bare Bones" per agreement	576,898	263,951	312,947
Engineering, 5% on $572,180	28,609	.....	28,609
Contractors' Expense and Profit, 10% on $572,180	57,218	28,490	28,728
Working Capital	33,980	.....	33,980
Organization (Actual, from Books)	11,404	.....	11,404
Interest During Construction, 2% on $572,180	11,444	.....	11,444
	$719,553	$292,441	$427,112

The total present cost of the properties of the Brush Electric Company, undepreciated and includng "Over heads," at pre-war prices, is $719,533.

The total present value of the said properties, including "Overheads," less reasonable depreciation caused by age, use, inadequacy, obsolescence and action of elements, is $427,112.

The above conclusions are arrived at through the application of the Reproduction Method of Valuation and the figures do not reflect the actual cost of the properties, as presented in Part I of our Report on the value of said properties.

(Sgn.) HENRY E. ELROD,
For the Henry Exall Elrod Company.

231 On Cross-examination the witness Henry E. Elrod testified as follows:

I don't remember, off-hand, what the maximum demand of Galveston Electric Company is, or whether their average demand per customer is about what the Brush Electric Company's is. I can have those figures produced, however, in a few minutes. I know that to some extent they buy current of the sub-station outside of town. That statement should not be omitted in making the comparison between the two plants as to capacity. I can obtain the maximum demand figures of what they buy outside, and I will do so, so as to make a real comparison between the two plants.

The largest capacity in units of the Brush Electric Company 1,000 K. W. If that 1,000 K. W. machine should break down th would have left 200 K. W. excess capacity; that would be abo equal to the capacity of their least efficient machine, and wou necessitate the operation during the peak period of all addition equipment. During the fire last year they were forced to purcha power, and during the period of storms they were forced to purcha power. Every time they have had a serious accident, so far as know, they have been forced to purchase generating capacity te porarily; but that is a thing that could happen in any plant. T Galveston Electric purchased power from the Brush Electric for long time after the storm of 1900 when their plant was put out commission by the storm. Other plants frequently have a comp ing plant to fall back on. I couldn't tell you what percentage towns in the United States have got competing plants. I just kn more particularly about such towns as Dallas—there are seve plants in Dallas. The excessive capacity of Brush Electric Compa amounts approximately to the size of its largest machine and a lit more, without any amounts for additional business it is going take on. The capacity necessary to take on an additional load 2,000 H. P. would depend entirely upon the character of the lo If you had a maximum demand of 2,000 H. P. on your present pe I believe your capacity would take care of it. A horse-power practically three-quarters of a kilowatt; it would take 1,7
232 kilowatts to take care of 2,000 additional horse-power. Yo excess capacity is 1,300. I would like to explain right he however that the taking on of a load of 2,000 horse-power does mean that your capacity will be called upon at any one particul time to handle that whole 2,000 horse-power at once. Of cours don't know what the machines are for or what the character of t contract is, but it would not ordinarily be supposed that an indust would be taken on which would lap into your peak period of co mercial light load, for instance. I don't know what this dry do business is. I have stated that I have not seen your contract. M information is an article in the newspaper and my knowledge of t fact that the cable has been laid across. There was a cable alread in, and whether the old cable was removed and the new cable p in its place, I don't know. I only know the common knowledge the fact that it was a new cable being laid across the channel to co nect this new business. That is the common impression that t employees around the plant have about it. Assuming that you h business across the channel already you would necessarily lay a ne cable if you took down the old one; so that it still might be mai tenance as far as I know. But it is a matter of common knowled and has been discussed among my employees and the employees the Company. I made no effort to check it; it was a matter th wasn't connected with our report on account of the fact that it ca after the date supposed to be covered by our report.

In explaining to the Judge of the Court what occasioned "lin losses" I said that the transformers being overloaded was one thin that could cause a loss, and long lines of wire from transformers

ultimate consumer, etc. Transformer losses frequently come because transformers are under-loaded, or rather that there is more capacity than necessity for it. I judge that both is the case in this town; in some places in congested districts the transformers are overloaded, and that in the outlying districts they are underloaded. I believe the merchants down town usually have a service from both companies, but I don't know it as a fact. If they do do that, only one company could be supplying them with current at a time, and then there would be in the downtown district almost 100% over-
233 capacity of transformers necessary. That is a condition that practically follows competition anywhere. It may be over-capacity of transformers rather than under-capacity. I haven't any interest in why the conditions exist. I have made no effort to ascertain why those conditions existed because it wasn't of interest to me. I criticised the losses only to the extent that I have done so this morning. The fact that they exist is an evidence that there is some reason for it. I don't know whether the reason is good or bad, and it was immaterial whether the reason was good or bad. I don't know about its being necessary to continue the use of that excess capacity of transformers in this case. If you put a service into a customer's place of business you have got to get transformer capacity to carry him if he wants to turn the switch; the question of whether he turns your switch or the other fellow's switch is up to him. You have no control over which he uses. I did not criticize you for the loss. I simply stated that these losses exist and is one of the reasons why it cost the Brush Company what it did to make current. I stated that in my opinion the cost was more than any other plants. I don't know whether your losses are more than they would be in a comparative situation. I don't think your operation is as good as it would be in a more modern plant. I believe you could get better efficiency out of your plant by a rearrangement of your equipment. That is all a matter of opinion. I don't see that it has any bearing on the case. But your jet condenser, for instance, it is acknowledged around the plant that it is inefficient, and that it should or would be removed and replaced with a surface condenser. The same criticism applied to the barometric condenser, and either one of the other condenser, I have forgotten which, has been a source of trouble ever since it has been installed. In fact, the Company exacted a rebate on the purchase price of one of the condensers because something was the matter with it, a detail which I did not go into, and that they continued to have trouble with for some time and insisted on a change of it. That opinion of efficiency is the opinion of your employees.

The Brush Electric Company's fuel costs were reasonable.
234 You pay 90 cents for oil now; that is comparable to about $3.50 a ton for coal I believe—depends on the character of coal. The market for steam coal here now is about $12.00. The present market for oil is something around $3.00. The Galveston Electric pays 72 cents. Your fuel cost on the basis of oil is practically one-third of the market; on the basis of coal is practically one-fourth of the market. I call that reasonable; and this contract calling for oil at 90 cents extends to April of next year. It would

take a clairvoyant to state what you will have to pay for oil fro
April of next year on; my opinion is that the price will be so hig
that it will necessitate the operators changing their equipment ov
to the use of some other character of fuel—lignite for instance. I
your coal and oil prices do not change for the present market yo
should have an adjustment of rates. That is, if you have to pa
more for oil and there are no off-setting credits to your operation
you should have a return which will produce a fair return on yo
investment after your operations have been deducted. If at the be
ginning of March of next year you have to pay the present marke
price for oil or fuel you will have to raise your rates—not from th
present rates but from the proposed rates.

In answer to questions by the Special Master the witness con
tinued:

In other words, if they have to pay the price that is now prevai
ing for oil next year and for coal (three or four times as much a
they are paying now) then this rate proposed to be fixed by the co
ought to be increased by, I believe, 16/100 of a cent. From memory
and without claiming that it is correct, I think it is 16/100 of a ce
for each 10% raise in the cost of fuel oil over the present basi
of 90 cents per barrel. I don't see any prospect of fuel oil being low
than it is today, and there is a possibility of its even being higher
The government has just concluded a contract in Mexico for fue
oil on the basis of $1.22 or $1.23, or something to that effect, a
extend over a period of years, and the Mexican fuel oil is the fu
oil they are not using. That contract of the government will ex
tend of course past the period of the Company's contract, an
235 it is probable that Mexican crude oil will not exceed by an
large extent its present level of prices, which is around $1.0
or $1.25 at point of production. If they had to change their meth
from oil to lignite or coal the cost would be material. I can't te
you just what; perhaps $12.00 or $15.00 a horse-power. That i
if they put stokers in to handle their coal——

Resuming his testimony on cross-examination, the witness con
tinued:

If they used lignite, it would necessitate their building a switch
into your plant to get the cars up to the plant and necessitat
handling machinery to unload and pile the lignite, the cost of all
which would be an addition to capital account, upon which the
would be entitled to a fair return. The lignite at around $3.00
ton would perhaps be cheaper than oil at the present price, but th
cost of handling would be more than the cost of handling oil. The
$1.20 price is effective at the point of production, Tampico for in
stance, and not here. At 16 mills for every 10% increase, it is
mathematical calculation how much it would have to go up to cos
$3.00 oil. $2.70 oil would be a 200% increase; that would mean a
increase of 3.2 cents per kilowatt hour if the 16 mills computation
right. I predicated my remarks by stating that I did not remember
definitely whether it was 16 mills or not.

Lignite coal cannot be successfully stored for any period of time ithout deterioration. I couldn't tell how many tons a day you ould use down there. I don't know how many barrels of oil you e. You would have to build a switch to get coal to your plant at e present time. I don't know from where; I haven't given that estion any consideration. Going to coal would involve consider- le besides changing to stokers. Lignite is the poorest coal in the rld to be stored. I don't think you would have any trouble get- g lignite now for $3.00 f. o. b. Galveston.

Referring to 500 Kilowatt Rotary Converter (Page 55 of No. 2 of y Report), my depreciation on that item is $5,030.20. That is 66⅔% of the cost of reproduction. The basis for writing off 6 that much depreciation was that the machine, so far as the records could be obtained, was installed in about 1903. It s originally, so I have been informed, an engine-driven machine, t has been worked over or changed. The settings and founda- ns are apparently in good shape. Page 5 of this same report ows the Power Plant Building, 72% erected in 1882 and 28% ected in 1911. This rotary converter is in the new part built in 11; the foundations therefore are not over nine years old. I en't any idea what is the efficiency of that machine in its present ndition. I determine my depreciation on the basis of age. I n't tell you whether there was such machine made in 1903, or ether there was such type of machine made as early as 1913. e bill you show me is evidently a bill for that machine, and e bill is dated April 12, 1917. That would reduce my depreciа- n, if its age did begin some time after April 12, 1917, $3,828.50, 29.00. In my original computation of depreciation I had de- ted two-thirds of the total which amounted to $5,030.20 and ered seventeen years of life—approximately $300.00 per year. the machine was shipped April 12, 1917 and not delivered and talled for some months after—on that basis it would make a differ- e of $4,285.70. In other words, of the $5,030.00 I deducted 250.00 was excessive. I have spoken of the difficulty in determin- g the time of purchase of this equipment. This is one of the regu- vouchers of the Company numbered; if it was on file at the time men were making their audit I did not discover it. There is ossibility always of errors being made in a matter of that kind, ing gotten between other files, or not having been found, or being t of the file at the time. In my method of determining depreciа- n clerical errors that I might make are usually caught by the dgment of my engineers as to the age and life of the property; men should have known that that machine was not that old, by king at it.

Referring to the Blow-off System on Page 8 of the same report, iler No. 2 was depreciated 65%. It was depreciated at the same e as the boiler. I don't think that it was installed when the ler was. I gave it the same life as the boiler, and I believe the boilers were given either sixteen or twenty years. The depre- ciation was deducted over the period than the boiler had ex- isted; because, when the boiler has to be replaced why the

"blow-off" system will have to be replaced with it and it will hav no longer life than the boiler. For instance, if the "blow-off" sys tem was put in last year and next year you have to remove the boile you will have to put in a new "blow-off" system, or the chances ar that you would. I gave no consideration to the fact that this has bee replaced within the last few years and that it was an entirel changed construction. This depreciation is entirely dependent o whether I am accurate in my determination of the boiler depreci tion, and any error that applies to the boiler will apply to this.

Referring to Live Steam System on page 32, I show that syste as being for generator units No. 1, 2, 3 and installed in 1908. will explain that, however, with the statement that prime generatin units 1, 2, 3 and 4 were installed in 1907 to 1909 with the average i stallation 1908. I base that entirely with the original date of install tion of the generating units. I gave the generating units twen years life of which twelve have expired. This steam piping w installed between 1907 and 1909, and, as I say, I arrived at th 1908 installation on just an average of those other dates. I ga it the same life as the others. If my assumption of the dates on t other or their life is wrong that follows to all of this auxillia equipment.

Referring to the turbo-generator unit, on page 30, I have one i stalled 1909 and one in 1910. No. 3 I have as 1909. The contra dated 1910 which you show me is, according to the amperes, the sa machine. I have simply got the dates switched on them. That wou make your depreciation $1,000 too much on that machine (No. 3 but it would be a credit on the No. 4 of practically an equal amou I think No. 3 was installed first. One or the other of them w installed in 1909 according to the data furnished me, and if it w No. 3 that was installed in 1910 it was No. 4 that was installed 1909. It would not ordinarily follow that the high numbers wo be installed first; but it is a very easy matter to get the
238 counting of them switched, the numbers of the machine, numbers adopted here are simply tentative. I think t this is a compensating error.

Referring to boiler No. 3 on page 60. My basis of determinatio depreciation is again just its age. It was not affected in any way its present operating efficiency. The fact that the boiler inspect for the insurance company now certify that for 170 pounds press wouldn't affect it. Nor would the fact that you could now sell boiler for more than my value shown there secondhand. actual value at this time may be a sum which will be altoge different in another year from now. I was determining values this year, but on the basis of a number of elements, the age of w was only one, and for rates to be collected this year. A purchase the boiler second-hand would not pay you anything for those fe dations. If he was a dealer he would expect to resell the boiler profit. But if he were still willing to pay you more money for boiler by itself than I have allowed you for it, that would not a my determination at all.

After having arrived at these depreciated values, or present va

xpect my rate determinations to figure four per cent depreciation that amount; in other words, to apply a twenty-five year life to the operty as a whole, and figure four per cent on the remaining value a depreciation allowance. It would go to infinity, deducting four r cent. each year from a constantly reducing amount, to wipe out e amount entirely. In that first computation in which I assumed u had $50,000.00 of value in 1882, I deducted four per cent of at each year following. I don't know how much I wiped out in 20; I did not make any computations. It all wouldn't be wiped t in twenty-five years. In twenty-five years the machine was gone, my assumption—that is what the allowance was for. I don't ow that you would have $18,000.00 at the end of twenty-five years t erased by that method of computation; or at the end of fifty ars you would still have $6,000.00 left. That is a metter of athematical computation. I have assumed a rate of depreciation of ur per cent. Starting with $100.00 would take off $4, and then from $96.00 the next year take off 4% of that, of $3.84, and 9 so on down for twenty-five years; at which time the machine would not be gone—there would still be a residual value in I can't tell you off-hand whether that residual value would nount to one-third. I don't think that I have stated in my report at my failure to deduct residual values was due to my leniency with e Company. Page 40 of No. 1 of my report reads: "We prefer to e this system partly because of its simplicity, but principally be- use it gives a greater annual return to a public utility than the nount which would obtain by inclusion of a junk value. In tempting to fix proper returns for any public utility there should some latitude in favor of the utility wherever there is any un- rtainty." Assuming that your figures are correct, at the end of enty-five years this method would not have taken care of $18,700 the original $50,000.00; and after fifty years' depreciation on item of equipment which was assumed to have only a twenty-five ar life there is still $6,000.00 of your money that you haven't tten back under this method. That was the method that was used all the tabulation on page 88, and applies not only to the $50,- 0.00 originally but to $749,000 of additions that you have put in. on that basis, however, we have extracted more depreciation and lowed more depreciation reserve than we have extracted de- eciation by $41,000.00 on the original Cost Method of applying the raight Line Method and using the various rates over the age or timated age of the equipment. On page 88 of this report, at the ttom of Net Depreciation, it shows that during the thirty-eight ars life of the plant that $339,590 have been deducted for de- eciation. According to my reproduction figures the amount of de- eciation deducted is $292,441.00, or a difference in favor of my production method of $47,149.00. I don't admit of an error in ese computations. The depreciation extracted plus the present lue is equal to the total investment. That does not prove any- ing as to the accuracy of the determination of the depreciation, only at four per cent is considered as being adequate by the leading gineers. It is not ordinarily applied to mean four per cent per

annum of the original cost of the item. It means $4.00 each
240 year on each $100.00 of original cost, not $4.00 the first
year and $3.84 or four per cent of the $96 remaining the next
year as I have computed it here. If there were no additions to plant
my computation would amount to taking four per cent the first year
off of the original cost, and then four per cent off of ninety-six per
cent, and then four per cent for the second year and four per cent on
ninety-two per cent of the original cost, and so on. But there are
additions to plant each year, and the depreciation of four per cent
is deducted from the additions to plant, and the original cost each
year as it is made, and in effect as the deductions progress the de-
preciation is on the depreciated amount each year. I don't see that
you therefore lose on the original investment and equally on each
addition that you make; but you would have to go to infinity to wipe
out the original investment if no additions were made.

In reply to questions by the Special Master the witness continued:

By going through the extensive calculations that have been made I
could give an estimate of about what is the difference between the
method of taking four per cent depreciation on original entire cost
all the way through and the method I have adopted here; but I
wouldn't want to do it because I don't acknowledge that is the proper
way of handling the situation. The fact remains that at the end of
a twenty-five year term, figuring four per cent per annum for the
depreciation of the plant, if the plant has been kept up, maintained
and additions have been made to it, there still is a large percentage,
usually between forty and sixty per cent, of the value remaining.

Resuming his testimony the witness continued:

Those items (that make up the forty or sixty per cent) are installed
all the way through; some of them have not been in for twenty-
five years; there are items whose life was shorter than twenty-five
years and which have been replaced maybe two or three times in the
interval. For those replacements there must have been funds. I
would not say that the fact that there is a remainder is in-
241 dicative that my depreciation allowance was too small rather
than too large. The part remaining consists of items whose
life has expired at least once and possible two or three times during
the twenty-five year period, and some items that were in the original
investment that won't expire for many years afterwards. The items
in your original investment in this plant which did not expire at the
end of twenty-five years are buildings, for instance, and brick stacks,
real estate. We don't ordinarily apply depreciation to real estate,
but that item remains in the investment. The total value
of buildings and stack make up a small percentage, $29,
120.00. That is all that I can recall that has been there over twenty-
five years. According to your estimate the original cost of that was
$23,536.00. I would not say that under my theory you would get
your money back on no other item except this building. I don't
believe there is any other item that is listed twenty-five years

Assuming these positions are correct you do not get all your money back in fifty years—unless you get something back in the salvage value. For instance, you have just sold one of your boilers, Boiler No. 2. Its original cost was $6,300.00 and you sold it for $1,600.00; so far this particular boiler, excluding foundations and all of that sort of thing, you got back about one-fourth. My records indicate that it was sixteen years old. According to this tabulation, in sixteen years you get back less than one-half. The brick stack will cost you more to take down than the material that is in it is worth. In that particular instance the failure to take into consideration the scrap value was not altogether a favor to you. The concrete foundations for machinery will be of no value; they would cost you more to get them out than they did to put them in. But that is a small amount. The salvage value of your machines will more than off-set the difference. There isn't any equipment that I am familiar with that is twenty-five years old. There is no possibility under my scheme in even fifty years getting all your money back. I don't admit that there is any loss to be made up. I admit the machines disappeared, and that they did cost you money originally. I don't know that you haven't gotten your money back through the depreciation
242 allowance I have given you. You did have to pay for them out of your profits. Your profits are what I showed. It doesn't make any difference what you had to pay out of your profits, if you added it to your Capital Account is does not reduce your profits. If when you put it into the plant you cannot collect rates on it and cannot get your money back on your investment—I don't know whether it does or not.

Turning to page 88, Part I of my report, there is $345,271.56, additions to Plant Account down to 1906. I couldn't tell whether any of that property is left now; the building and stack I know. In my valuation I think there are one or two items listed, the installation date of which is back of 1906. I don't recall off hand however. The building and stack are there and I think one or two pumps, and perhaps some miscellaneous equipment. The building's original cost, as included here, is the difference between the value of the real estate in 1885 or 1886 and $25,000.00. The original cost of the building could not have exceeded $25,000.00 in my estimate. I think $10,000.00 would cover the original cost of the stack. I think there are a few other original items left, I don't just recall what they were, but $50,000.00 ought to cover it. I have listed in my inventory only such property as is now in existence. The depreciation on that property according to my reproduction report is $292,442.00. By adding that to this property that has wholly disappeared we are duplicating the depreciation on the building, on the stack, and on one or two other small items that I don't recall now. The depreciation on the power house in my reproduction report was $40,880.00, and on the stack $10,695.00; the original cost of the stack is estimated in that amount. I suspect that $2,000.00 would cover the depreciation on these other items, and that would make a total of $53,515.00. Then of the $271,000.00 which I have for total depreciation on the now existing property only $53,500.00

applies to property that was in existence in 1906—if your calcula-
tions are correct. Then there is in existence $217,000 worth of de-
preciation on property bought since 1906; and there is $295,000.00
according to my report, of property that has disappeared altogether
that is, everything that has disappeared that was installed prior
to 1906 with the exception of these items we have now
243 Then, during the period, according to this report, I make
you an allowance in Part 2 (Page 88) of $339,065.00; this
figure is less the appreciation of real estate or $4,278.00. So far as
I know there is no property left that was purchased prior to 1906
except the building, real estate and stack and miscellaneous for
which we allowed $2,000.00; the return on the depreciation fund
amounts to something. There is $190,000.00 worth of property
according to my report, disappeared in excess of what this depreci-
tion allowance gives you; and according to your way of computing
it, why I grant you that must be taken out of these so-called excessive
earnings. Your way of computing it just isn't in accord with my
ideas. The property has disappeared that was installed prior to
1906, and there was $271,000.00 worth of depreciation still in exis-
ence; those two have got to be added together to cover the total
period. They do add the $512,000.00. I have given you only
$339,600.00. Referring to Part I of my report, Page 40, paragraph
3, I read:

"If a valuation is made 6 years after installation, the plant value
will have diminished by $240,000, leaving as the then net value
$760,000. Assume that the net income allowable is 6 per cent
This will amount to $60,800 per annum on the depreciated valua-
tion of $760,000. Adding to this the $40,000 annual allowance for
depreciation, the net earnings which the company must receive are
$100,800 annually."

That $40,000 is 1/25 of 4% of a million dollars. In other words in
the sixth year when the property had depreciated the $760,000.00
applied 4% to the original cost of it, $1,000,000, in this paragraph.
That is not what I did according to Table No. 2 page 88, which is the
right way.

(There was submitted to the witness at this point a table referred
to as Depreciation Table #1, (marked by the stenographer Plain-
tiff's Exhibit No. 18) covering a twenty-six year period).

Referring to the table just submitted me, that same problem is
set up and carried from the first to the twenty-sixth year
244 At the beginning of the year, if my assumption of 25 year
life is correct, there won't be any property left; and the de-
preciation fund if I put into it $40,000.00 each year, will have
amounted to a million dollars or enough to replace the original in-
vestment. The eight per cent return, according to the third para-
graph on page 40 (Part I of my exhibit), I compute on the depre-
ciated value each year, and that return in Column 2 is shown for
the twenty-five years to be $1,040,000.00, which would average
$41,600.00 each year, and that would be about 4.16% on the origi-

investment. The assumption has been that the man was entitled to an eight per cent return on his plant. Theoretically he gets eight but practically he gets 4.16 if it is computed in that manner. But the situation never occurs as is presented here. The depreciation fund is supposed to be set aside to replace parts of the property that disappear each year and not being replaced they earn their own return. You can't replace them until their life has expired, but you are replacing them from year to year on a plant that has had no particular age, and if you are not returning them—why it would be unreasonable to expect that you would allow those funds to remain idle when you could get six or seven perhaps eight per cent for them, currently. We don't know when the life of a particular item is going to expire. You can invest a depreciation fund in a long-time security, and you can borrow against that security at the same rate of interest for such current needs as are necessary. I don't know that I can say I am perfectly familiar — the State public utility laws in regard to depreciation funds and their expenditure. I think it is true that most public utility statutes specifically prohibit the expenditure of depreciation funds for anything except additions and betterments to the plant; I don't know that they provide that the earnings of any depreciation fund shall accrue to the funds and not distributed as dividends. I know that the depreciation fund is frequently distributed in dividends. I do not consider that good practice unless your stockholders will replace that, and practically they will not. It ought to be kept intact and available for reinvestment as called upon. What is true of any one
245 item of equipment would be true of practically all of the items of equipment in a plant. I grant that any theory in arithmetical computation that will apply to one particular item doesn't change when applied to another. Then this man that was supposed to have gotten 8% in return in reality gets only 4.16%, unless he takes the earnings of the depreciation fund, or unless the depreciation fund goes back into the plant and earns its own fair return, or if the depreciation fund is invested temporarily in securities. If he puts that depreciation fund in a bank at 4% interest he would then have a total return of $1,560,000.00 (according to this computation, the total of Column 2 and Column 4). That would amount to 6.24%. I am familiar, only through having read the accounts of them, with the service at cost plans in Cleveland and Cincinnati. I believe both provide for the keeping up of a depreciation reserve, the earnings on which accrue to the reserve. Under the supervision of the *of the* Board of Supervising Engineers the Chicago Railways are told to keep their funds in the bank with the earnings accruing to them, subject to call. I don't recall if that is true of the Consolidated Gas case in New York (under Public Service Commission 1st District). Ordinarily when these properties are subject to regulation I believe the investors are denied the return on the depreciation funds; if they are not, they should be. In which case, under my theory, they would average throughout the 25-year life a return of 4.16%,—according to that computation.

(There was submitted to the witness at this point a table referred to as Depreciation Table #2, (marked by the stenographer Plaintiff's Exhibit No. 19.)

In this case, with an identical property, Column 1 shows no deduction of accrued depreciation to date and the man does get his full eight per cent return each and every year. By putting into a depreciation fund an annual allowance of not $40,000.00 but $24,020.00, it will with compound interest return him his money at the end of the life of the property. At the end of the 25 year- he gets his million dollars back, and he has still got a plant. I assumed that this plant disappeared in 25 years—I wrote off 1/25 of it
246 each year; but there is still a residual value at the end of the 25 years representing the junk value or salvage value, and as plant are usually kept up from year to year, the buildings always exceed the average life; that is, if the average life is 25 years, certain portions of the plant will always be much greater than the 25 years; otherwise, 25 would not be the average life. It is equally true that many of them will have to be replaced every two, three, four or five years, and funds must be provided for them. He has had to spend a million dollars to replace his plant throughout that period, which is all that funds provides him with, and he did get under this method 8% return each and every year that he was without his million dollars. I haven't any objection to the use of your method of computing depreciation if at the end of the 25 years you will write off the depreciation, or if you will write off the depreciation each year that you extract. If you would reduce the one million dollars each year as a base for computing the 8% return, I would have no objection to that method. According to your method of figuring that would bring us back to the 4.16% return (as on Table No. 1).

I believe that two plants of the same identical equipment in the same town, rendering the same quality of service and having the same operating expenses, would have, under my method of determining the depreciation, the same rates. Referring to paragraph 3 page 40, assuming one of these plants was new there wouldn't be any accrued depreciation; and if the other one is six years old and its basis for rates is $760,000.00—the two plants would be very much the same in point of value after ten years on account of the fact that the accrued depreciation would have been reinvested for additions to the plant. If the two plants were identical, why the basis for rates would be different. The universal application of that scheme would prohibit competition by necessitating collection by the new plant of a higher rate than the old plant could afford to charge. I don't think that is exactly sound economics. On your Table #2, using the sinking fund method, the rate basis would be the same, and the depreciation allowance is the same each year, and assuming their op-
247 erating expenses were the same their rates would be the same and they could compete on quality of service.

(There was submitted to the witness at this point a table referred to as Depreciation Table #3 (marked by the stenographer Plaintiff's Exhibit No. 2.))

In this table there is used an assumption of a 25 year life and the deduction of 4% from the depreciation value each year, exactly as I have deducted depreciation on page 88, setting aside in Column 3 the first year, $40,000.00, and each succeeding year a decreasing amount. At the end of the twenty-fifth year there would be left in the book accounts for which the Company had not collected depreciation $360,396.00. In that twenty-five years the depreciation fund would have amounted to $639,603.00. At the end of the 25 years you have $360,000.00 that you have not collected the depreciation for—but your plant does not absolutely disappear. There is always a residual value. You can't run a plant right up to 25 years and then have it disappear over night. That is a very nice theory but it does not work out in practice. What does happen is that some of the items will disappear two or three times and you will collect some residual value out of each item that disappears. A pump will wear out in perhaps ten years, as far as efficiency is concerned, and you will replace it. You will probably get ten or twenty or thirty per cent of its original value for it, all of which is a credit to the fund. I arrived at the average life of 25 years by taking those items that disappeared in less than 25 years and off-setting them against those items that last longer than 25 years; for each item that lasts a longer period than 25 years there is an item that lasts a shorter period. So that distinction does not obtain because it is counter-balanced in my original computation for the 25 years—except for the residual value. Your eight per cent return constantly declines throughout that period, according to this, unless you return your depreciation fund to your properties and get a return on it, which is usually done. The four per cent depreciation may not give you in that time $360,000.00 more than you need for depreciation to make additions with.

That is exactly the method I have pursued in Table No. 2
248 page 88; and in Table No. 3 on page 88 I show an allowance of $339,000.00 depreciation against an admitted disappearance of value of $512,000.00. This theoretical position comes out pretty closely to my practical demonstration. Using this method as a base for rates you would get a lower rate than Table No. 2 with the sinking fund method, and you would get a lower rate than Table No. 1, which compares with my paragraph 3, page 40, in which I make an annual allowance of $40,000.00. However, this scheme (Table No. 3) has the effect of giving you an eight per cent return on the values remaining in the plant—which computed annually averages throughout the period 4.16% plus your depreciation fund. As a matter of fact, the eight per cent estimate in my Table No. 3 is eight per cent on the values of the plant, plus the depreciation and working capital and real estate. I gave you eight per cent return on the depreciated cost of the property and then the depreciation; the depreciation and the present value equal the original investment. I did not allow eight per cent return on the depreciation fund; that was taken care of as it went along. It does not enter into the computation of return—the depreciation return is set aside either to invest in your plant and let is earn its own return, or invest it other-

wise. There was something reinvested in your plant, whether it was from your depreciation fund or not. It was supposed to have been reinvested from the depreciation fund, and I believe that at the time any reinvestments were made that a depreciation fund was set up of which to make the investment at that particular time. The first year it was reinvested I allowed you eight per cent on the whole amount reinvested; and the next year eight per cent on 96% of that reinvestment, and so on, plus the amount of depreciation extracted. According to your figures the fund did not return the original property; this $339,000.00 evidently did not replace what has disappeared—if all of those items disappeared. I have got them in my inventory. I haven't any of the items that were installed back in 1906 with the exception of the building and stack and perhaps several other small items. A man could buy Liberty Bonds right now and get about five per cent return on them, and 4.16 in a public utility in Galveston would not interest him much right now.

249 In answer to questions by the Special Master the witness continued:

In line with the judicial and economic thought and all a man is entitled to a fair return on his money invested in a plant, for instance, a million dollars, he is entitled to a fair interest on it. He is entitled to have a depreciation fund fixed so that at the end of the life of that plant, say 25 years, he would either have that amount in money that he invested or he would have it in the plant worth just as much as when he started at the beginning. If a man sold a million dollars to the government and takes bonds for it the government pays him the interest for the years and gives him his money back, and when he invests his money in the property he ought to have that money back at the end of a certain time—of course you can't do it actually but that is the idea. But there is just this about it; you can't take out of your original investment a sum for depreciation and have your original investment too. The difference between us is just the difference in the application of the depreciation rate, whether it should be applied in the straight line *of* otherwise, as I understand the situation. You loan the government a million dollars and take their bonds for it; they agree to pay you a certain rate of interest at the end of the 25 years or 40 years when the bonds are returnable, they return you the million dollars and they have paid you from time to time the legitimate rate of interest. They have not, however, paid you each year four per cent or some other per cent as a depreciation against those bonds, because the bonds don't depreci*ation*, they are always at their face value. This depreciation is to make that plant just like the bonds, good all the time. As long as the plant is kept at 100% of value through the application of the depreciation fund continuously, then the plant is always worth its original investment.

Resuming his testimony on cross-examination the witness continued:

250 You can't keep a plant at 100% new because there will be an interval between the time of the installation of the machine and the time that it will have to be replaced. If we lent the

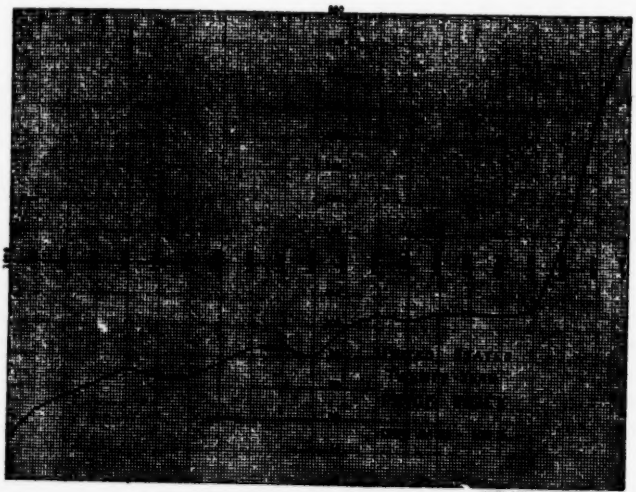
government a plant they would pay the depreciation on that, because it is being used and a portion of it is being consumed in the service. And they still would pay four per cent or eight per cent, whatever the agreed rate was, on what we loaned them and on a constantly depreciating value; but they would have in their own hands in a fund the difference between its value at any time and the original amount or original value of the plant. In the case of the railroads I don't think they did. They would pay you on that basis whether they had that fund or not, if they agreed to do it. I have cited in my criticism of the reproduction method the case of a dam and the owner being forced to suffer a loss by the application of the cost of reproduction as a base for rates at a period when prices have dropped. I think every owner of private property suffers just that loss when the production cost of those items drops. I have applied a method of valuation to a public utility that is different from the bases I was adopting on anything else, and the prime reason for doing that is the fact that the public utility is different from other private property in that it has its life and operates through the grace of the people, by franchise, and the use of the people's streets and other privileges granted by the people. These drygoods stores in town do not have the use of the streets to any extent. Their delivery wagons contribute considerably to the decline in the paving, but they have no structures in the streets nor do they consume a part of the street. The Brush Electric Company uses a considerable portion of the alleys. I have never considered what would be a fair rental for those alleys. I think that because of this special condition attaching to a public utility that they should be subject to entirely different economic laws, in the matter of basis of rates. If I were going to buy real estate for a public utility I would use exactly the basis that I have appraised this property here, the market value today. If I were going to buy a building, if the building were already 51 erected I would value the component elements as they exist in place. For utility purposes I would value them at the normal price. At this time they could not be bought at those prices, nor is this the time that a utility could realize present day prices on its plant, and nobody will build a utility now at present day prices. Ordinarily utilities have to put in additions when the demand exceeds their then capacity, and that comes usually in the time of business activity. Prices are high during the time of business activity, but a public utility does not always have to build at high prices. I haven't see- a set-up of average prices of copper purchases of a public utility of any size compared with the average prices in market quotations. I don't know that as a fact those average prices are necessarily higher than the average market quotations. Lack of purchasing and over-production will bring the prices of copper wire down. I know this, that no utility is going to make any extension or build any new plants at a time like this when the highest prices known in the history of the world and when the probability is that within a very short while prices will be very much lower than they are now. I couldn't tell you what was the average date of delivery on a Westinghouse generator or on a patent Wilcox boiler during

the war, because we made no installations of that kind during t war. I do not know that all the public utilities in the Eastern p of the United States throughout the war that had electric plants w forced to build their plants to additional capacity to furnish pow I am not familiar with the conditions in the East during the war. have testified to being retained for the construction of an elec light utility, street railway property. We do not expect to get equipment except at present prices. I told you just a minute ag would not build any public utilities now. I stated yesterday tha was constructing the Cisco dam, paying present prices for it. It i dam for city waterworks, but that is rather a different proposition that it is an absolute necessity for the maintenance of life. The terurban line at Gainesville isn't being built. It is just being signed and will not be built until the prices of equipment
252 such that we can go ahead with the project.

Having a generator unit with an assumed life of 25 ye and figuring depreciation according to my paragraph 3, page 40, four per cent on its original cost throughout its life, we would h at the end of the 25 years an amount of money equivalent to original cost. If the prices had changed so that everything c twice as much, and if you were to purchase a new machine at m than the original machine cost, you would not have had the integr of your investment maintained. You would have it maintained far as your investment went in that original machine, but y would not h e had a sufficient amount of money to have repla that machi and it would have been necessary for you to have add the difference to your capital account *of* have gotten some fr money to make up the difference. I have never put up to the sto holders the proposition of getting additional money to replace equi ment that was wearing out. I have never put up to a bank the c of issuing 100% more bonds than were outstanding to replace so thing that was worn out. Not having had any experience with th things I don't know how far I would get with such a proposition. I had $10,000.00 in a business or property for the service of t public at a time when a dollar will buy a bushel of wheat, and at t end of its life I get back $10,000.00 when the dollar will buy h a bushel of wheat, I think I would have had the integrity of m investment maintained. There is no comparable thing about mo except its purchasing power. The Index of Prices issued from mon to month by the Bureau of Labor Statistics reflects the purchas power of money. I am familiar with it in a general sort of way.

At this point plaintiff introduced in evidence the Index of Pri of the Bureau of Labor Statistics, from 1896 to 1918, which is follows:

(Here follows index of prices, marked page 253.)



53 Resuming his testimony the witness continued:

The money which any public investor, during that period of years
ot back wouldn't buy him as much now as it would have originally;
ut if he had invested his money in government bonds, why he would
ave received no more now than he did then. I have no doubt but
hat decline in purchasing power is what accounts for the fact that
overnment bonds draw 4¾% now below par whereas the old bonds
hat drew 3 used to be above.—I don't know. A properly constructed
epreciation fund should maintain the dollars that are originally
nvested in their integrity and not the item itself that is covered.
The depreciation fund is measured in dollars and the integrity of
he investment is the thing to be maintained, and does not con-
emplate that the depreciation fund is to be set aside on each indi-
idual item to replace that individual item at its cost at the time it
s replaced. These utilities that have spent Millions of dollars dur-
ng this war period to extend their plants will be entitled to collect
ates at those war prices they paid for equipment. There have been
ery few investments so far as I know in public utility properties
t the present high prices and only such investments as were ab-
olutely necessary to carry on the then business have been made.
f the utility's rates are based on war prices and the prices drop
o half as much, they won't be able to continue in business at all,
ut if their rates are based on normal prices the rates will not drop
elow normal prices and they will be able to continue. With a
welve million dollar investment in electrical equipment for electrical
roperty at war prices, I would judge that when prices decline to
ormal if you have a monopoly that you will be able to collect a fair
eturn on your investment in utilities, because that has been held
s the basis of return in practically all utility cases, recent ones;
nd if the investment has been properly and judiciously and hon-
stly made I think there is no question but that you will get a fair
eturn on that investment. I would allow you rates on the original
cost. If the big steel companies could build a plant for half
54 as much, they would build the plant rather than pay the rates
on your cost. I don't know how long the residence customers
ould pay your rates if the City could build a plant for half as much
s yours. I think maybe the contractors and municipal ownership
dvocates would try to get a duplication of that plant in that town
t once; I suspect you would then have to reduce your prices to the
hen level of prices. I don't know how much difference it would
ake to you whether the Commission allowed you rates on original
ost or whether you reduce rates on original cost. You couldn't col-
ect them unless you have a monopoly. I don't know of any of the
tates that permit monopolies. This scheme of mine of original
ost works all the time, when prices go up and when prices come
own. It protects you in the case of your twelve million dollar
nvestment—it just depends on the valuation of it. If the Commis-
ion granted you that rate I don't know whether you could col-
ect it from your customers or not. I have been in the rate-mak-
ng business for some time and I have been up against these practical

problems. I know what an industry can reproduce my plant for. I think the customers would not pay the rates. The United States Steel Company has got more money than the Doherty interests, and I think they would not pay you that return on twelve million dollars if they could build it for six. My theory of original cost of public utilities is one that has been adopted, rather generally, by the Courts and the Commissioners throughout the land, and my opinion on what would happen in the East in connection with the expenditure of twelve million dollars would seem to me to have no bearing particularly on this case. The Business of purveying electric current is a practical monopoly, and if the original cost theory of valuation is adhered to through good times and bad it will always be fair to the investor and he will always secure a fair return on his investment. If you have competition on the basis of plants being built when prices are low the chances are that you would not be able to collect a price that would be higher than the price which the plant they have constructed could produce current for. There would be a question as to whether or not your big power customers would determine on the basis of the then cost of reproduction whether your rate was
255 one they would pay; if there were any possibility of their securing competition they might. I have heard that the Westinghouse and General Electric Companies did more business during the war than they ever did in their history before; I do not know it as a fact. They build electrical equipment and machinery. There is no doubt that considerable of it was purchased during those three years. This is a practical question in rate-making, as to what we are going to do with that investment. I think in all but thirteen states public utilities are subject to utility regulation. I don't know whether this will come up in every public utility case they have within the next year or so.

I testified here a short time ago in regard to valuation in the dock case. The docks are public utilities. I used as basis present day prices—not what you term actual cost of reproduction, but the present day prices applied to the component elements of the Wharf Company properties in place. It was not original cost; but the purpose of valuation was for taxation rather than rate-making. In other words I get your tax valuation as high as possible and your rate valuation as low as possible. I think everybody knew that those prices was not what the dock cost. I included engineering on all of that dock construction, and eliminated much of their equipment from the application of engineering. In the Cisco dam my percentage for engineering applies to all items of expenditure by the contractor, in other words, the contract cost of the dam. It did not apply to the land, and did not apply to contractor's equipment; the contractor's equipment does not become a part of the company's property. I testified in the dock case that it did not make any particular difference whether they had made expenditures for engineering to outside engineers or not, that somebody had to do the work. I have said this morning that if in your property the engineering was charged to operation you should not capitalize it later.

Referring to Table No. 2 page 88 of my Report No. 1, it is shown
ere that you made some money in those previous years. Such of it
s was a fair return on your investment legally belongs to you as
rivately owned property. I never saw your franchise. If you made
forty per cent a year that was yours. I don't think I have
56 reduced your values so as to take away those earnings. I have
computed that you had an excessive earning, and that was
ne of the reasons I computed that you had no "Going Value." If
ou had failed in the earlier years of your business to earn a fair
eturn, then you should have a rate now that would make up for it.
y the same token, if you earned more in the early years of your
usiness, you should not now add something to your values for
Going Concern" to make up for something that does not exist or
omething that you have already received pay for. I believe that
s called the "Wisconsin method" of "Going Value." By that
ethod if you have a plant poorly operated that loses money you
ave a "going concern value," and if you have a very profitable plant
hat makes you money you have no "going concern value." That is
bout it. I believe that if a plant is going and earning money that
hat is its own "going value" as distinguished from the bare-bones
roperty without business and not earning. If you have on di-
gonally opposite corners two ten-story buildings, one six months
d full of tenants, and the other, an *in*dentical building, brand new
ut with no business, you have in reality a "going concern value"
ttached to the one that has business.

In answer to questions by the Special Master the witness continued:

Under the Wisconsin plan of figuring going value a deficit of re-
rn during the early years of life of the business is capitalized and
llowed as going value or as the measure of going value. If the
lant has earned a fair return from its inception and had not lost
oney it would be entitled to no going value because it had been
rning its going value all along.

Resuming his testimony on cross-examination the witness con-
nued:

I am not familiar with the Alvord method of computing Going
oncern Value. A method that gives a value to a property with earn-
gs would appeal to me more than one that gives a value to a
roperty that is losing money. It was because of the fact that you
had had earnings in excess of a fair return that I omitted any
57 item for Going Value in this valuation of your plant. Under
the Wisconsin method you would have had to have a fair re-
rn and depreciation to have a going value. I don't recall any Com-
ission other than the Wisconsin Commission that has used the
isconsin method, although I am of the opinion that several have,
nd I know that there are several cases, court decisions, to which we
ill refer. I haven't heard that the Wisconsin Commission repented
nd quit using it. I know right recently Judge Miller in the Kings
ounty Lighting case has rendered a decision affirming practically
e same theory, the Wisconsin. By "recently" I mean the past five

or six years. I don't remember the date of the Des Moines gas ca referred to on my page 33, last paragraph and described as "recently My inference there that the Supreme Court repudiated the reprodu tion method, was in the case of undisturbed paving, and my opini of the matter is correctly stated. I don't know that they specifical approved a Master's report of the complete valuation of all of th items of property belonging to the company on the basis of reprodu tion at the then current prices. If you state it as a fact I will acce it. They excluded the reproduction method only when applied t items of property which the company did not own such as this un disturbed paving. I don't recall if the case was decided somewhe in 1911 or '13.

Referring to Part 2 of my report, the stack and building co stitute 15.1% of my total bare-bones value. Practically, then, o your total property, the average life of which I have assumed to b 25 years, 15.1% is over 14 years and all the rest under it. I don know how long that building and stack would have to last to gi an average life of 25 years on that property. That could be com puted deducting the eighty odd thousand dollars in the building an stack from the total valuation and multiplying the remainder by 1 years, and subtracting that result from the $556,000.00, or the tot valuation times 25 years, and dividing the difference by the value o the stack and building. If the assumption of 25 years is correct th would give that stack and building a life of a little more than 9 years, and that 90 years would be increased by any of the items o property which you now own that are less than 14 years. B

258 I don't assume for a minute that that building and stack ar going to last until they have had a life of 90 years. My 2 year assumed liability is not wrong, by any large. I am assuming 25 years on the basis of the fact that that is the period that is mos generally given for the composite life of electric properties. I don know whether that will work out just exactly in this case. I don think the stack or the building is going to last 25 years. They hav got to, practically, to make this accurate. I haven't run up my tota figures to see if they would bring me to an average of 25 years. Th agreed valuation is $576,000.00; it is not far from right. If w take that amount and multiply it by 25 we will have the number o dollar years totalled if my average of 25 years is right. I think non of your present property, outside of the building and stack, is mor than 14 years old; the rest has got to be made up of the building an the stack, and they are not going to last 90 years—the stack is no The 25 years' average may be wrong.

Referring to Table No. 1 page 50, Part 1 of my report, at th bottom of the table, that is a composite life, some of the items ar given a life of 50 years, others 20 years, others 10, others 5. I be lieve it is a fairly representative life table. That shows about a average life of 17 years; 17 years assumption for the average life o this property would bring this stack and building within what my assumptions of their life would be, and then that life would be some wheres near what practically works out on this particular property That would give you a depreciation allowance of 5.8% annually.

ave stated that I have arbitrarily used the percentage as 4% because is the rate most generally used so far as I have been able to ascertain engineers and the various commissions in applying depreciation to roperties of this character. This is my report, but I have based my dgment upon all information that I could gather. I have tried to ake it check with the actual conditions. According to your theories y depreciation allowance did not check with the actual conditions n page 88 of my report. If 5.8% were the proper amount the actual llowance for depreciation on the valuation of $427,000.00 would e around $24,800.00. It would make a total allowance on page 88 of about 14% more than I gave you; 5/6 would be exactly 40% more than you were given. I don't know how much that would have increased Column 6 (Table 2 page 88). I ill assume your computation as being approximately $—. That ould have made that depreciation allowance come somewheres near hat actual depreciation took place. I allowed you $33,980.00 for Vorking Capital; that included materials and supplies. Working apital is used to pay for materials and supplies and labor and other erating expenses. You have to carry a bank balance ordinarily. ive or ten thousand dollars would be a sufficient bank balance for property like this to maintain for its credit reports. I don't know hether Dun and Bradstreet would approve of a property that did ot have over two per cent liquid assets in the form of cash. One onth's operating expenses would average something like $20,000.00. ome of them have to be paid before you get your money back. As a ule, the Company can purchace much of its supplies at thirty days nd practically all of its bills for services are payable each month or ll of its bills for services are payable each month. Those bills always xceed the cost of operation or there would be no profit. Page 88 ows about sixteen years when you didn't have any profits. Usually y the 15th all accounts for services are paid, that is, all that are kely to be paid. Most of them have been paid on the 10th to take dvantage of the discount. You would have to carry about forty ys operating expense before you get your revenue, the beginning f the operation of your plant, and if it was $20,000.00 a month that ould be $27,000.00 for operating expenses. You have to have an most continuous inventory of materials and supplies, and have to place them as fast as you use them. Those bills for electrical pplies are almost universally subject to a discount for cash in ten ys, and it is good practice to take that discount. I would disapprove a company's charging that extra amount of two per cent or five r cent, whatever it may be, up to operating expenses, if they didn't ke it; that is why they are allowed Working Capital, so they can that.

The average time within which they have to pay their bills on uch of their materials is ten days instead of thirty; so they have on nd thirty days' materials and supplies they would have to pay for. don't know what their materials and supplies on hand are now.

The inventory includes electrical merchandise in stock which I have not taken cognizance of, but such stock as is on hand, consisting of poles and wires and cross-arms, pins and in-

sulators and boiler supplies and other miscellaneous supplies
not amount more than eight or ten thousand dollars, if I remem
correctly. Including your electrical merchandise stock you had
hand materials and supplies amounting to $33,707.00. I d
know that that is all merchandise stock on which you ordina
secure a cash discount for prompt payment. If you had not ta
a prompt payment discount on that merchandise stock the loss in y
merchandise department would have been much greater; but I am
considering your merchandise stock at all in any of my calculati
For your Working Capital you must have at least $10,000 for b
balance, and you will have to expend abour $20,000—for operat
expenses before you collect your bills. You collect 40 days from
time you rendered the services, instead of 30 days, but the aver
from the delivery of the service is not more then 25 days. You d
consider that you have paid your employees before at least the 1
of the month or the 30th. Your weekly pay-rolls—all those you
by the week. The average payment for four and a third weeks wo
be used instead of saying that the total payment of operating expe
was made on the first of the month and that you have to darry i
days or 40 days. The average is 25 days. I insist that one mon
operation and maintenance, which includes the materials used
maintenance and operation, is sufficient for the conduct of the b
ness plus an additional amount for liquid capital, and that will
exceed thirty-two or three thousand dollars; and because it does
I have used 10% of the annual gross earnings as the basis, wh
has always exceeded the monthly operating balances and the var
courts and commissions have allowed from 10 to 15 per cent in
treme cases, and much less than that in many cases. I am
granting that your merchandising stock has anything to do w
your rate of return or capital upon which a rate of return is figu
I have heretofore testified that it wasn't a necessary but in t
particular instance a desirable part of your operations in this to

As to who is going to put up the money for that—you h
261 a surplus of $140,000.00 to start with in 1912, and you h
earned each year with the exception of 1918 more than a
return on the value of your properties—This is just one more i
to come out of your excessive profits, the $528,000.00 on my page
That is supposed to be your surplus, has no deductions for deficits
the first ten years. I don't know whether there were deficits back
there or not. I presume that there were, but at that time the busi
of purveying electrical current was in a very experimental stage
I have taken the privilege of assuming that prior to 1890 w
electrical properties reached the stage of stability that the Comp
was entitled to all the money that they could earn, whether it
8% or 20%, and that the losses were to be assumed by the promote
the project as an experiment. Right after 1890 for eleven years t
lost money; subsequent to that time, however, the promoter ma
enough to reimburse himself. Out of that $528,000.00, if you w
to consider it that way, must first come enough to pay for t
merchandise stock, about $34,000.00; and then must come this $1
000.00 that hasn't been paid for out of depreciation. I believe th

s sufficient there to reimburse the promoter for the deficits of the
irst ten years. That $580,000.00 is the surplus over and above losses.
didn't count those first ten years losses in there, but they had a
urplus on hand of $27,000.00 in 1890. I don't really think that
eginning in 1890 they lost money every year for eleven years but
ad made it previously; I don't think they lost very much before
890. For the reason I have testified to previously, I did not include
missions and Contingencies in my inventory. That was based not
n court decisions but on my judgment. I didn't look for any court
ecision for the leaving out of those two overheads. I have made in-
entories of public utilities for comparison with other experts in
ate cases, and I admit that they listed some items of property which
didn't find, and that I listed some which they didn't find; and that
ill always be. There will be some omissions; but until I can es-
blish what those omissions will be I don't believe that it is right
apply an arbitrary percentage to cover it on the entire plant. I
hink that in cases of distribution system, counting wire, poles and
cross-arms and things like that, that the possibility of error
62 is larger than in counting switch-boards and generators and
things which are difficult to miss or probably impossible to
verlook; and I have always made my inventories on the basis of
iberality in counting and used the next highest figure on such items
hat there was a possibility of making a mistake on, but to say that
was 3 or 5 per cent off of what was right, never over, always under,
never could quite reconcile that method with the practice. To be
ver, one wouldn't have to be dishonest—just mistaken. One can
onestly overlook things unintentionally. I would not say it is the
niversal practice to include Omissions and Contingencies in
aluations. I can not name any decision in which it wasn't done.
ven admitting that there is a good chance for omissions in the dis-
ibution system, as I do, I did not put anything in. But as I say, I
ave used figures that way which I believe to be liberal. For in-
ance, on the wire my figures were some 10,000 pounds less than
ours, but I used your (Mr. Hamilton) figures. You might have
en short yourself, but I didn't believe you were because you had
ade a pretty close count of it. In Organization and Legal Expense
did lose $11,404.00. Under that head I classify the cost of promot-
g the enterprise, the cost of organizing, getting the charter, and
ch legal expenses as are necessary in connection with it, cost of
curing franchises, cost of capital stock tax; I don't know what the
graving bill for stocks and bonds on a property like that would be,
t that is included in the $11,400.00. I don't think that is all Judge
vin and his firm have got out of this Company, and I don't think
ey charged you excessive amounts; but I am of the opinion, and
believe the books will bear me out in it, that their legal expenses
om year to year have been paid as an operating expense. If you
id for all of your property out of your operating expenses then
e public will have reimbursed you through rates. I believe you
e only entitled to a fair return when you are serving the people
rough a franchise from the city, and that if you have got an ex-
ss of the fair return in the past we can now adjust it and take it

away from you if we can find it. That is my opinion. I hav
allowed nothing for Taxes During Construction. Ordinarily
263 you are assessed each year the value of the properties existing
on the first day of January of that year, and are assessed
irrespective of whether that piece of equipment happens to be in o
out of operation. You are assessed on all the property that you own
Expenses that are incurred prior to the point when a piece of equip
ment begins to earn something are Expenses During Construction
which are properly capitalizable; but Taxes During Construction hav
always been charged to Operating Expense, and paid for through
rates, in this town—so far as the books indicate having once been
charged that way, even if erroneously, the value of that is lost. I
the people have paid for it once through rates, why the Company
has no right, according to my opinion, to get additional rates now t
reimburse them for it. I don't know that there was an agreed
franchise rate. I don't think that the franchise stipulated the rate
I don't know. As previously testified, I have never seen the franchise
I don't think that the addition of any item of value is justified to
capital account where it cannot be shown that that item was a
actual charge to capital account. If it was paid through operations
why it has been disposed of and I don't think that the public should
be required to pay a rate that will pay for it again. If the public ha
donated the real estate it would be all Company property regardless
of how they acquired it, and its value should be assessed at its present
value in rate-making. That is a free-will offering; if the public
donates the taxes on that real estate through rates, it is taken
"willynilly".

In answer to questions by the Special Master the witness con
tinued:

If there are no good years the enterprise has evidently either been
mismanaged or conditions are such that they cannot earn, and the
intent of a franchise or of an ordinance to fix rates is that the com
pany may have such rates as will produce a fair return. If there
were no regularion, that is, if the City did not establish the rates
which the company must sell current, then the company had the
right to establish such rate as would produce a fair return on the
investment. If they failed to do that, then that is their own fault
and if in subsequent years they earn more than a fair return
264 through the failure or the allowance of the City to regulate
them, or allowing them to charge such rates as will produce
more than a fair return, whatever surplus is produced is a credit
against the deficits which have been produced in the past, and they
should be allowed at any time such rates as will make a fair return
on their investment at that time but which will compensate them for
earlier losses.

Resuming his testimony on cross-examination the witness con
tinued:

The City does not in any way guarantee the Company they will
ever earn anything. The City has the right to regulate the rates

the public utility that serves the public through a franchise from the City, and for the protection of the public they should exercise that right in my opinion. We are attempting to keep you from earning more than 8%. I think there is nothing to keep this public utility right now from making more than 8% except city regulation. The City guarantees nothing other than your right to operate and use the streets.

In answer to question by the Special Master the witness continued:

I do not know of any place or system where they have a "sliding scale" or where it has been attempted to be put in.

Resuming his testimony on cross-examination the witness continued:

For Interest During Construction, on the reproduction estimate, I allowed 2% on $572,180.00. That does not mean that you could borrow money for 2%. That percentage was arrived at on the basis of four months' construction period for the various items of construction that entered into the plant as they were constructed, on the basis of 6% rate of interest. I wasn't basing my estimate on what a new company could borrow money at. I was basing my rate upon the probable rate of interest that existed during the times that these various units were added. My memory doesn't run back as far as 1882, and I don't know whether you could have borrowed money in Texas at 6% in 1882 or not. However, I am of the opinion that no allowance at all should have been made for Interest During Construction at that remote period, that is, no allowance should be made in this particular instance to this Company for a construction item that there is no evidence of it having existed at that time, and particularly as the present Company purchased the plant already constructed, and it is reasonable to suppose that any items of interest, such as interest during construction, had been incurred and amortized long before the present Company assumed control of the properties. As claimed originally, I did not make what is ordinarily termed a reproduction estimate. My estimate was made on the basis of the present plant or value of the component elements of the present plant in place, using such historical data as it was possible to obtain. I am inclined to believe that 6% was the rate which this Company did pay for such money as it borrowed. I haven't any evidence that point to that, I don't offer any; I just make the statement that that is my belief. I have had experience in borrowing money in sums of that size—not in 1882, but since that time in connection with clients, from perhaps 1902, 1903, to the present date. I have in the last four years borrowed money personally at that rate but not as large sums as that; but I have secured money for clients at that rate in the last four years, on municipal bonds security. A company building a public utility could not put up municipal bonds for a loan of sufficient size to build a plant. I am not in position to cite a loan comparable to this, i. e., the sort of security that a company in this position could put up. That 6% interest is not

arrived at by anything that is comparable to this plant other than my general knowledge of operations and study of the situation in years gone by. I can't cite you any case. I don't call to mind any stocks or bonds of public utilities now on the market nearer than 7% at this time. That 7% was the offer of the General Electric Company to the City of Dallas for a Two Million Dollar Bond issue of 7%. The property is privately owned, but it was the Dallas City
bonds. I think those bonds were issued by the public utility
266 the electric light or the street railwas, to cover the building of an interurban railway from Dallas to Wichita Falls according to a franchise agreement with the railroad that they were to build one or two interurbans, and these bonds were issued for that purpose by the utility, if my recollection of the circumstances is correct, and they were having some difficulty in finding a purchaser for the bonds to go ahead with the project. The City of Dallas was demanding that the Railroad Company do go ahead with it according to their franchise agreement, and I believe that the City of Dallas undertook to help the railroads and dispose of these bonds; under what provision or how they did that I don't know but that is my recollection of the case. I am pretty sure that the City did not endorse or guarantee those bonds or protect the General Electric Company in any way, because this interurban that they were going to build lies without the City of Dallas and the City of Dallas would have no legal right to do so.

That 6% interest rate I have applied to a four-months' period and I arrive at 2%. I have no idea that this property could be reconstructed in four months. I arrive at the four-months' period purely as a matter of judgment as to the length of time that it would take to make the various installations that have been made according to the records of the Company. Not in a reproduction of the property but a reproduction of the component elements of the property as they were introduced. That is as close to historical construction as I could estimate it. That present building could not be built in three or four months. I think you could install one of those large generators in four months. I think that the larger one was installed in less than four months, and then operated. I don't know as a matter of fact that they were about a year getting it in, but from such records as I have seen I believe it was put in the latter part of the year. I didn't take into account the length of time to get it shipped; that is an entirely different situation. At this time it might take six months to get it shipped; at that time I don't know how long it would have taken. I don't think the Company would have to pro-
vide money before it got the shipment. I think the contract
267 called for the first payment to be ma-le on the delivery of the
machine. I don't think the evi- e would have to be in evidence before the order was taken for a shipment. I think the General Electric Company would accept an order from the Brush Electric Company for a machine without requiring that they have the money on hand in advance to pay for it, because the Brush Electric Company is an established and going concern of considerable importance; no doubt more likely so because the Brush Elec-

ric Company's order would be signed by Henry L. Doherty & Co. For the use of that credit, I have allowed only a fair return on the nvestment. I have allowed nothing in the way of Interest During Construction. Under present conditions I wouldn't undertake to contract to rebuild this plant in one year. If I were assured of being able to get the materials, I might do it. At this present date it is just those delays in getting materials and that sort of thing, and unfor-seen obstacles, that causes all the estimates usually to include an allowance for contingencies. I don't believe I have ever seen a valuation or a contractor's estimate that did not include a percentage of some kind or other in some form for those things. I still think that 6% divided by 3, bringing it down to four months, at 6% per annum, is a fair Interest During Construction allowance. In fact, in thinking over the matter, I am inclined to believe that an interest rate of 6% should be allowed only on the net additions to plant or the additions to plant that have been made since the present company acquired the plant, which would amount to around $140,000.00, that is, the additions would have amounted to that. I think that the present owners would have paid for every expense that the previous owners have incurred when they purchased the plant. I have confined the Interest During Construction to such items as have only been allowed and put in since Doherty & Company bought the plant, because the other items would have been taken care of. The present owners would have had to take care of them in their present price; They are in there in the present cost of the plant to this Company—providing they have not been taken care of in war times. When the cost of an itetm has been amortized, if it still has a value and there is a sale they usually collect for that item if they can. Whether they can, depends on circumstances.

On page 5, Part 2 of my exhibit, is shown the total cost and agreed value and deduction for depreciation for the power house. I have deducted $40,880.00 for depreciation, and I have done that on an average life of the power house as a whole as 29.43 years—2% is its 38 years old and 23% if its 9 years old. If you divide that $40,880.00 by 29.43 you will then get the amount that I consider sufficient for depreciation allowance on that power house annually. On page 6, and then on all the succeeding pages, if each depreciation deduction is divided by the life which I show as having expired, you will get the annual allowance for depreciation on that particular item. On page 60 I have deducted $16,941.39, that is poles. I have taken off 44.1%. You will find an explanation of that on the next page. 22.7% of those poles are less than 9 years old, and 67.5% are more than 9. The total expired life is 58.9%. I have not applied it in terms of years. The average life would be about 12 years. On page 61, that would apply to those also. On page 62 for the guys, I have just taken an average depreciation of 30%. That would compare with the life of the poles, an average life of about 12 years. On page 67, the cross-arms, I have deducted one-third for depreciation. I think I wouldn't give them the same expired life as the poles; they don't last as long as the poles ordina-

rily, and since the system has been put into use, or rather since th
first cross-arms that are still in use were put in down to the presen
time they have been replaced from time to time. I have just est
mated that the value never was two-thirds of its original value.
think you would be safe in putting the expired life at eight years
The alley arms, the same. Page 68, pins and insulators, assum
ten years is the expired life of those. On page 75, the item of Mi
cellaneous Equipment I have deducted depreciation $1,125.00, an
by "average age 10 years" I mean expired life, and not its expec
ancy. On page 76, I have not estimated any depreciation for thes
items. I have just arbitrarily estimated the value of the install
tions. The same applies to Special Customers' Installations, pag
77. For Tools & Appliances, page 77, I have a present valu
269 of $500.00; that is just as arbitrary value to cover those with
out the assumption of any age. On page 79, $2,559.00, de
preciation deducted from Utility Equipment—that has almost two
thirds of its life in it, or about three years of expired life. In m
computation for Operating Expense, on which I base my rates,
included for depreciation, annually, four per cent, or $18,060.0
If you divide all of these depreciation deductions, each of them in
dividually by the number of years of expired life, I don't think yo
will have accurately the annual allowance that I consider necessar
for this plant on the basis of this report. You will have what I hav
deducted annually and then you ought to have the figure whic
I include as my basis for rates. On account of the different metho
of arriving at results I have deducted about $10,000.00 a year mo
than I have allowed you in this $18,000.00 in your rate computa
tion. The $18,000.00 is produced on the basis of an over-all de
preciation of 5%, *of* 4%, which is decreased by the amount of a
preciation on real estate and the reproduction estimate is based o
the *applica-* application of individual rates to individual items.
applied the 4% theoretical allowance to the base found in my actu
cost method. I have set up no depreciation reserve in my repr
duction theory, in my report. In my actual cost method my de
preciated value differed from the depreciated value I got in thi
$427,000 as compared with $480,000. The $427,000 comes fro
this cost of reproduction less depreciation. It is evident that th
depreciation allowance I had given you on page 88 did not tak
care of the total value of the property that had disappeared. In th
you have a rate base, or what ordinarily would be your rate bas
reduced by the amount of the depreciation I have deducted. An
in computing your rates I include in those rates some $10,000.0
less than the annual deduction I make here. We have not reduc
your base value by an amount more than we *am* willing to allow y
in rates. We have presented the actual cost of the properties, $51
000, as the rate base. I have put this in as evidence bearing on th
question, and I stated in it that it is intended more for the pu
pose of comparison, that its chief value lies in its use for the pu
poses of comparison. The annual deduction here is 1
270 times the amount that I put in as an actual allowance in m
rate computation. I deduct it here, but I don't add it i

e other place. Assuming that my assumptions in Part 2 of my hibit are absolutely accurate, the rates that I have computed won't low you to replace that property in that rate. Where are you ing to get the money? The rate of depreciation, or rather the mount of depreciation as computed in the annual cost method ill not entirely replace the various units as they disappear. I be-ve, however, that the depreciation reserve will produce, together ith the recoveries from salvage values of the various units, a suffi-ent amount to return the original cost. The fact that my tabula-on here which yields an average annual depreciation of 5.8% right and all the others are wrong, that would practically make ll of these figures jibe. To use the one that makes them all agree ould, I think, be allowing too much, more than works out in prac-ce. Theoretically the 5.8% would be a pretty good check of what rcentage should be allowed for depreciation, but practically, I be-ve that it would not be. My office is now preparing a schedule f depreciations, according to your theory, and I will have it here st as soon as he can get it up to me. That 5.8% was arrived at by e use of percentages in common use. I stated there, however, that believe that that was high on account of the fact that there was so all a value attributed to the building which took so low a rate of terest, low rate of depreciation.

Page 120 shows the Annual Operating Expenses for several years st. I don't think that each of those net profits should be increased the amount of the loss in the new business department at the ttom of each of those five columns. With regard to losses in the w business department I said this: "The company operates a de-rtment in connection with its offices for the sale of electrical mer-handise. Ordinarily such a department would not be a necessary, essential element of the business, but in this particular instance are of the opinion that it provides a legitimate means for in-easing the volume of the Company's business, as every electrical pliance sold will increase the consumption of current to the extent of the requirement of the appliance. This being the case, the profits or losses of this department should be credits or debits, as the case may be, to capital account, just as is the st of advertising or the salaries of solicitors."

"We are of the opinion that losses such as the above should be cluded in Going Value; however, as the Company has charged em to Operating Expenses, and as the gross earnings of the Com-ny have been sufficient to cover the operating expenses and de-uctions for depreciation, together with a fair return on the value its properties, we are not adding the amount of these losses to pital values, to be paid for again in rates for service."

I did not add them to Capital Values, and I did not include them Operating Expense. I said that because the Company had harged them to Operating Expense I wouldn't include them in oing Value. When I took your operating expense I eliminated em from there. I don't think it's another case of your losing th ways. I left it out of Capital Account but took it out of Op-rating Expense. As stated before, it is included in that $528,-

000.00 surplus profits. The new business expense is shown on page 72. I can tell whether or not those items were included by comparing your operations for those same years with the operations indicated on my page 120. It is my recollection that in your office the other we checked this up and determined to our satisfaction that page 120 did not include the record of the new business losses. I would like to have my auditor state just what he did find about that, however. He did state it at the time, but I didn't understand that it was to the effect that the reason his profits on page 12 was more than your books showed was because he hadn't deducted the losses in the new business department. He can be here. Assuming your idea is correct, that is, five columns should be reduced by $58,167.00 to bring them in agreement with your books. If that is true, you did not get any Going Value with the customers and business you built up with the new business department. I allowed you no Capital Account for that value created at all, and I eliminated from the Operating Expenses any consideration of the cost of that department in fixing your rates. I can't point out to you any other place where you get any relief from that
272 I am of the opinion that those losses should be charged to Going Concern Value. I wouldn't put it on the basis that the more you lose the more you are worth. If you have lost $10,000 and you have a plant that is worth $1,000,000, and you lost $10,000 you are entitled to add $10,000 to your Capital Account to make up for the $10,000 that you lost. You would have that value. I have never tried to sell a plant on the basis of how much it has cost.

At this point plaintiff introduced in evidence the tables used in the cross-examination of the witness Elrod, which are referred to as Depreciation Tables #1, #2 and #3, marked by the stenographer Plaintiff's Exhibits 18, 19 and 20, respectively, and which are as follows:

#1.

Year.	Rate base.	8% return.	Depreciation fund.	4% interest of dep'r fund.
1.....	$1,000,000	$80,000	$40,000	$1,600
2.....	960,000	76,800	80,000	3,200
3.....	920,000	73,600	120,000	4,800
4.....	880,000	70,400	160,000	6,400
5.....	840,000	67,200	200,000	8,000
6.....	800,000	64,000	240,000	9,600
7.....	760,000	60,800	280,000	11,200
8.....	720,000	57,600	320,000	12,800
9.....	680,000	54,400	360,000	14,400
10.....	640,000	51,200	400,000	16,000
11.....	600,000	48,000	440,000	17,600
12.....	560,000	44,800	480,000	19,200
13.....	520,000	41,600	520,000	20,800
14.....	480,000	38,400	560,000	22,400
15.....	440,000	35,200	600,000	24,000
16.....	400,000	32,000	640,000	25,600
17.....	360,000	28,800	680,000	27,200
18.....	320,000	25,600	720,000	28,800
19.....	280,000	22,400	760,000	30,400
20.....	240,000	19,200	800,000	32,000
21.....	200,000	16,000	840,000	33,600
22.....	160,000	12,800	880,000	35,200
23.....	120,000	9,600	920,000	36,800
24.....	80,000	6,400	960,000	38,400
25.....	40,000	3,200	1,000,000	40,000
26.....	.....	.....	.....	.....
	.....	$1,040,000	$1,000,000	$520,000

Under the above conditions the total return is $1,040,000 plus $520,000 or $1,560,000, equivalent to 6.24% per year on $1,000,000. A 25-year government bond for $1,000,000 with 4¾% interest rate would yield $1,187,500 in 25 years, without any risk.

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#2.

Year.	Rate base.	8% return.	Depreciation fund.	4% compound interest on dep'r fu
1.....	$1,000,000	$80,000	$24,020	.....
2.....	1,000,000	80,000	49,001	$961
3.....	1,000,000	80,000	74,981	1,960
4.....	1,000,000	80,000	102,000	2,999
5.....	1,000,000	80,000	130,100	4,080
6.....	1,000,000	80,000	159,324	5,204
7.....	1,000,000	80,000	189,717	6,373
8.....	1,000,000	80,000	221,326	7,589
9.....	1,000,000	80,000	254,199	8,853
10.....	1,000,000	80,000	288,387	10,168
11.....	1,000,000	80,000	323,942	11,535
12.....	1,000,000	80,000	360,920	12,958
13.....	1,000,000	80,000	399,377	14,437
14.....	1,000,000	80,000	439,372	15,975
15.....	1,000,000	80,000	480,967	17,575
16.....	1,000,000	80,000	524,226	19,239
17.....	1,000,000	80,000	569,215	20,969
18.....	1,000,000	80,000	616,004	22,769
19.....	1,000,000	80,000	664,664	24,640
20.....	1,000,000	80,000	715,271	26,587
21.....	1,000,000	80,000	767,902	28,611
22.....	1,000,000	80,000	822,638	30,716
23.....	1,000,000	80,000	879,564	32,906
24.....	1,000,000	80,000	938,767	35,183
25.....	1,000,000	80,000	1,000,338	37,551
		$2,000,000	$1,000,000	

Under the above method, the investor recovered his original i
vestment at the end of the life of the property, and received 8% o
his investment throughout the period he was deprived of his mon

	Total current generated.	Les stati curre
Brush Electric Co. 3,250 K. W. Capacity.....	6,500,250	500,3
Galveston " " 1,475 K. W. Capacity.....	5,155,433	274,4
Current Purchased by Galveston Elect. Co. Net.....		
Net Current Generated and Purchased by Do.....		
Conversion & Transmission Losses.....		
Net Balance.....		
Current Used by Galveston Electric Street Ry. Dept. for Cars.....		
Current Sold to Galveston-Houston Electric Ry. Co.....		
Current Used by Company, Railway Department.....		

Generation Data for 1919, *in K. W. Hours.*

	Total current generated.	Less station current.	Net current generated.	Total current, sales & losses.	Total current delivered.	Total losses.	Losses, percentage of total generation.	Percentage of K. W. capacity, Galveston Electric Co. to Brush Electric Co.	Percentage of total output of Galveston Electric Co. to total output of Brush Electric Company.	Percentage of current purchased by Galveston Electric Company to total output.
..	6,500,250	500,397	6,076,043	5,999,853	4,583,533	1,416,320	.....	.....	.....	.....
..	5,155,433	274,438	4,880,995	5,589,635	4,969,631	620,004	.....	.....	.....	.....
.....			1,426,590							
.....			6,307,585							
.....			717,950							
.....			5,589,635							
Dept. for Cars.....			2,665,916	Current Used by Galveston Electric Co. Light & Power Dept.....						1,902,965
Co.....			200,900	Current Sold to Galveston-Houston Electric Ry. Co.....						150,065
t.....			24,899	Current Used by Company, Light & Power Department.....						24,886
			2,891,715							2,077,916

274 23.

Year.	Rate base.	8% return.	4% depreciation allowance.	Dep'r fund.	4% inter. on dep'r fund.
1	$1,000,000.00	$80,000.00	$40,000.00	.....	.....
2	960,000.00	76,800.00	38,400.00	$78,400.00	$3,136.00
3	921,600.00	73,728.00	36,864.00	115,264.00	4,610.56
4	884,736.00	70,778.88	35,389.44	150,653.44	6,026.14
5	849,346.56	67,947.72	33,973.86	184,627.30	7,385.09
6	815,372.70	65,229.82	32,614.91	217,242.21	8,689.69
7	782,757.79	62,620.62	31,310.31	248,552.32	9,942.09
8	751,447.48	60,115.80	30,057.90	278,610.22	11,144.41
9	721,389.58	57,711.16	28,855.58	307,465.80	12,298.63
10	692,534.00	55,402.72	27,701.36	335,167.16	13,406.69
11	664,832.64	53,186.62	26,593.31	361,761.47	14,470.46
12	638,239.33	51,059.14	25,529.57	387,291.04	15,491.64
13	612,709.76	49,016.78	24,508.39	411,799.43	16,471.98
14	588,201.37	47,056.10	23,528.05	435,327.48	17,413.10
15	564,673.32	45,173.86	22,586.93	457,914.41	18,316.58
16	542,086.39	43,366.92	21,683.46	479,597.87	19,183.91
17	520,402.93	41,632.24	20,816.12	500,413.99	20,016.56
18	499,586.81	39,966.94	19,983.47	520,397.46	20,815.90
19	479,603.34	38,368.26	19,184.13	539,581.59	21,583.26
20	460,419.21	36,833.54	18,416.77	557,998.36	22,319.93
21	442,002.44	35,360.16	17,680.08	575,678.44	23,027.14
22	424,322.36	33,945.78	16,972.89	592,651.33	23,706.05
23	407,349.47	32,587.96	16,293.98	608,945.31	24,357.81
24	391,055.49	31,284.24	15,642.12	624,587.43	24,983.50
25	375,413.37	30,033.06	15,016.53	639,603.96	25,584.16
26	360,396.84	.....	.....	.....	.....
Total ..	.....	1,279,206.32	639,603.16	.....	384,381.28

275 On Redirect Examination the witness Elrod testified as follows:

I think that an 8% rate of return is ample for the plaintiff company. I believe that is the usual and customary rate that is allowed in Texas. It was allowed in the Houston case, and I think less than 8% was allowed to the utilities in Dallas. In the Fort Worth telephone case 8% was allowed, and I think in the San Antonio telephone case they allowed 8%, but I won't be sure. In their application to the Board of City Commissioners last year (1919) 8% is the rate they asked for as fair.

(Here follows table, generation data for 1919, marked page 276.)

277 On Re-Direct Examination the witness testified as follows:

Judging from my own experience in borrowing small amounts of money, I would say that the prevailing rate of interest in this locality is not more than eight per cent. Since I have been in Galveston I have borrowed money from banks at that rate unsecured. So far as I know the banks here and in Houston, and in this locality do not charge customers more than eight per cent. I have never heard of a higher rate than that being charged. The legal rate of interest in Texas is six per cent I believe.

On Re-cross Examination the witness testified, as follows:

The legal rate is established for the purpose of establishing a rate in matters of controversy where no rate of interest has been specified; it does not mean when the banks charge eight per cent that they are charging an illegal rate of interest. I don't know that the Statutes of Texas provide a ten per cent rate.

I stated in my testimony a day or two ago that there were certain records of the Brush Electric Light and Power Company between 1909 and 1912 that I had not been able to get hold of. I refer to the corporate minutes. I had all the other books.

On re-direct Examination the witness testified as follows:

So far as I have been able to judge, the Brush Electric Company and its predecessor, from 1890 to the present time, have kept a comparatively accurate account of receipts and disbursements in the transaction of its business. My auditor can state about that. He went over the books carefully, and he will be here.

In answer to question by the Special Master the witness continued:

I don't think there is any controversy as to what ought to be done about the two or three items of storm damage. It has been charged off to Operations year after year.

278 W. R. PHIPPS, a witness for the plaintiff, having been duly sworn, testified as follows:

On direct examination:

My home is in Galveston, and my employment is General Manager of the Brush Electric Company and has been for practically five years. I was employed by the Brush Electric Light and Power Company in January, 1907, and have been with the new company since it was taken over by the Doherty interests in 1912. I am familiar with all of the operations of the Company since that time.

I heard Mr. Elrod's testimony in regard to the substitution of lignite coal. The objection to using lignite coal is, in the first place we don't have enough real estate on which to store lignite, and it would have to be stored under water; you cannot store lignite coal for any length of time unless you do store it under water. I have

made an investigation which indicates that if we should go to lignite it would cost us approximately $150,000. (I speak of the lignite we get from up in Texas around Rockdale and vicinity.) We would have to build the under-water storage for not less than three weeks' supply. It would necessitate the installation of handling equipment in addition to the stoker, and it would necessitate a switchtrack. There is a track now extending up to Twenty-ninth Street and also on Postoffice and Church Streets; that would have to be extended approximately one thousand feet from Twenty-ninth Street to our plant. That extension would have to be on one of the city streets on which they have street-car tracks, that is, Church and Postoffice Streets. I think they would have to displace the street-car tracks to run that track down there. We would have to buy practically twice as much real estate as we have now. As to the price of oil next year, my best judgment is that we will not be able to make a new contract for oil for less than $3.25 a barrel. I have been buying the oil in the last year of our operation. Last year that item amounted to $62,000, and being an item of sufficient size I have given it in the past considerable attention. Our average price last was $1.04, and if we had bought oil at $3.25 a barrel it would increase
279 our operation expenses to $124,000.00 a year.

I was at the plant and familiar with the work done by Mr. Hamilton's men at the time they were taking the inventory of this property. They discussed with me the question of various and sundry items of depreciation of the plant. The question of the condition of the stack at the plant came up, and the repreciation which they put on the stack at that time met with my approval. The present serious condition of that stack developed after our valuation of that stack was made. It was in April of this year that it became noticeable enough for us to take some action, and we then asked permission from our New York office to remove the present brick stack and replace it with a steel stack. I believe the failure in that stack came about primarily through the action of water and fire which occurred at our plant in 1918. There was no indication of that at the time we made our inventory.

I have direct supervision of the New Business Department operation. That department not only secures customers, but it adds appliances to the present customers' installation, which increases their consumption of current, thereby increasing our revenue. It is not contemplated that in this New Business Department, the merchandise sales shall pay the cost of operation. In every electric utility with which I am familiar this New Business Department is an expense comparable to advertising in other businesses. It is for the purpose of maintaining the customers we now have and adding to them for business. If I were going to buy an electric property I would go carefully into the number of and class of customers which they have, and I would go into the question of whether or not the business of their current consumption had been properly developed. There would be an inclination to pay more for a property that had had an active New Business Department in the past than if they had not.

I heard Mr. Elrod's testimony in regard to the live steam system I did not agree with him on his depreciation on that item, becaus should we replace one of those units with another it would no necessarily follow that we would have to replace the steam system

Our boilers are standard type. I mean by that, that the pres
280 ent live steam system would fit another boiler that we woul put in the same place, and we would not have to throw awa this system when the boiler was changed.

I heard the testimony on the blow-off line. I have the sam criticism to offer on that as on the live steam system. If we replac any one of those boilers or all of them it would not be necessary t rebuild the blow-off system. It took us about a year to install th 500 K. W. unit, which was later increased to 750, and probably year to put in the 1,000 K. W. machine. That was necessary be cause our old plant was in operation, and had to be kept in operation so, naturally, it took quite a long time to carry those changes ou

I heard Mr. Elrod's testimony on the condition of that building I believe the building is in better condition than it ever was before because since the fire in 1918 we built a new roof and repaired th building in every place where it was damaged, and the greater por tion of the floor, I consider it now at least ninety per cent of its re production value. I think it will last seventy-five years.

If we were to put in that under-water storage we would have t buy as much more real estate as we have now.

On Cross Examination the witness testified as follows:

I began my employment with Brush Electric Light & Power Com pany in January, 1907, in the capacity of Chief Engineer. I con tinued in that position to 1909, when I was promoted to General Superintendent in charge of the distribution system and the power I continued in that employment up to the time of the sale to th plaintiff, and after that up until 1915, since which time I have been General Manager. As Chief Engineer and General Superintendent I had nothing to do with keeping the records of the Company. S far as I am concerned, I have only had charge of them since I have been General Manager, since 1915. Since that time the records have been kept correctly. There has been a correct record of receipts and disbursements. So far as I know there was always kept a correct record of receipts and disbursements prior to that time. Mr. Fred

Lege was in charge of the record of the Company and the
281 office prior to the time I took charge as General Manager and he had had charge of them from 1907 until 1915. Prior to 1907 J. R. Cox was in charge of the records; I don't know where he lives at this time. I cannot recall the names of all the directors of the Company in 1907. I believe that Sealy Hutchings was a director at that time, and R. Waverley Smith, and H. J. Roney, John Sealy and John C. Walker. Those gentlemen are all residents of the city of Galveston. I believe R. Waverley Smith is on a vaca tion somewhere. So far as I know all those gentlemen, with the exception of Mr. Smith, are available as witnesses in this case. As

directors they had charge of the office and management of the Company, I should think they would be able, if called, to give information as to the operations of the Company prior to the sale to the plaintiff in this suit. I am familiar with the rates charged by the Brush Electric Company prior to 1915; those rates were fixed by ordinance in 1911. I was familiar with the rates charged by the Brush Electric Company prior to March, 1911. I believe that the rates prior to that time were not fixed by ordinance, the rates being fixed simply by the companies furnishing the service.

I was not familiar with the details of the sale of this property to the plaintiff in this suit. I do not know the price paid by the present company for that property. The gentlemen mentioned as having been directors in 1907 were also directors at the time of this sale, and I should think they would be able to tell what was the purchase price. Present day prices for labor and material are much higher than they were prior to 1916 and 1917, and very much higher than they were at the time of the purchase by plaintiff of this property. So far as my knowledge goes, the present prices for labor and material such as would be used in the construction of this plant, are very much higher than they have ever been at Galveston. We have not carried a depreciation fund account on our books. If the five per cent depreciation were set aside it would be carried on the books as such, but it has never been set aside. I appeared before the Board of Commissioners for this city in July, 1919, representing the Company. I don't recall just how much detail we went into, but we filed some sort of statement with the Board; it was not a complete financial statement, however. In that statement the Com-
282 pany claimed the right to earn at least eight per cent on what it claimed to be the fair value of its property, $1,225,000.00; it was not placed any higher at that time. We used that figure as a matter of convenience as we did not have any figures on the actual property. The outstanding bonded indebtedness at that time was $1,265,000.00. We did not have any more at that time, so far as I know. The up-keep of the property—repairs, taxes, insurance, and items of that character, has since 1912 been paid for out of the gross earnings, charged to Operating Expenses. There have been additions to the plant, those mentioned by Mr. Elrod as approximating about $125,000; but I don't recall that any additions have been charged to Operating Expense. The maintenance has been charged to Operating Expense; to some extent the terms "up-keep" and "maintenance" are synonomous, but not absolutely. Since I became General Manager I have known as matter of fact that the Company employed attorneys to attend to its business, and the legal expenses incurred have been charged to Operating Expense. The taxes paid by the Company since I became General Manager have been paid yearly and charged to Operating Expenses; and such taxes as were paid included any taxes or assessments against new constructions that might be in place at the time of rendering taxes—the whole tax account has been charged on Operating Expenses. As to whether that has been the rule of the Company, I can only testify since I have been in the present position. I should say that any in-

terest charged on the first payments on new equipment would not be charged to Operating Expenses. I don't know without going into the records, that it has not been so charged. It would be charged to New Construction, and Capital Account, and not on Operating Expenses. I would say there has been interest charged to Capital Account. I have no recollection of any instance where any interest has been charged to New Construction. I mean to say it was chargeable to Capital Account if that account holds it. As to where it was chargeable, depends on whether it went in as an addition to the plant or whether it was interest for some other property. I can show you on the books of the Company where interest has been paid and charged to Capital Account.

283 Our Company has a contract for furnishing of fuel oil until April 1921 at $.90 a barrel, delivered at our plant. The rate which the Company is complaining of would have gone into effect August, 1919. It did not go into effect however because of an agreement between attorneys for the Company and attorneys for the City to hold the substitution of these rates up until this hearing could be concluded. As I recall, that agreement was made before we had a hearing on the temporary injunction, and after the suit was filed for a temporary injunction. The ordinance provided the rate to take effect about August 1, 1919, and this suit was filed the middle or latter part of August, 1919. The fuel oil contract I referred to was only for one year's duration, that is, from April 1 this year (1920) until April 1, 1921. The contract we had for the year from April 1, 1919, to April 1, 1920 was for $1.10; for this year we procured a more advantageous price. The Company has had the benefit of those fuel oil contracts during that time, one year at $1.10 and this year at $.90.

There has been no contract made by the Company for the furnishing of power on Pelican Island. The Company has been furnishing electric light and power to concerns on Pelican Island for several years—I would say since about 1912. I think the new dry-dock on Pelican Island began operation in November, 1919. Our Company has been furnishing electric power to that dry dock company, and furnishes practically all of the power used by that company. They have one or two small units, I believe an air-compressor. We also furnish the electric lights there. We have recently laid a new cable to Pelican Island, not to take the place of the old cable but to increase our capacity on Pelican Island generally. It was needed there, due to the increased load taken by the dry dock company. They have a demand of about 800 horsepower. We are prepared to furnish that demand, and that demand will be increased a little later on. The new cable will furnish about 1,200 horsepower, and the old about 800 horsepower, so we are prepared to furnish about 2,000 horsepower. We are furnishing power to the Seaboard Transportation Company and other industries, one or two small companies, on Pelican Island. The business of the dry

284 dock has increased our revenue very slightly. We hope it will increase our revenue when the capacity I have mentioned is furnished there. We have reason to believe it will be in

creased. We would not have put in this new cable if we had not thought it would increase our revenue. As to how much increased revenue will be derived from that new business, I have not estimated closely enough to say. I will do so, but it will take me some little time to go over those figures. The dry dock company is in operation now and is using a part of the increased horsepower we expect to furnish. The plant has the capacity to take care of the increased load. If it takes care of this increase of 1,200 horsepower, we will have a slight over-capacity, not very much.

The department maintained by the Company for the sale of electrical appliances has been a loss to the Company as you mean it now, that is, the department has not furnished a profit. The department itself has not earned anything. That loss in five years has amounted to $58,000. The Company expects the consumers of light and power to make up that loss. If those electric Appliances had been sold by the other concerns they would not have been any loss to the Company—but they would not have been sold; that is my assumption but I believe it can be substantiated. Some of the other electric light companies sell these electric appliances and some do not. Practically all of the Doherty interests sell appliances, and a majority of them sell at a loss; that is the only one I have any knowledge of. I believe I can safely state that it is the general thought, the general experience of the Company doing that business, that the loss on the electrical appliances will be taken up and paid off by the consumers. We do it with the belief and knowledge that the consumers pay less for the current than they would any other way. The Company put in this store for the sale of electrical appliances about 1916,—I am not certain about the date; it was after the ordinance was passed in 1915, fixing the electric light rate in this city. I cannot put my finger on any instance where the private consumers of electric light and power have paid a single cent less for electric light and power on account of the sale of these appliances, but we know that it is a fact. There has been a reduction
285 in rate since that store was put in—the reduction in 1917, which was a difference in discount. That was voluntary reduction on the party of the Company. There was no investigation by the Commission at that time. It was a voluntary reduction of five per cent on bills paid within ten days, and it was on account, somewhat, of the sale of these electrical appliances. I don't know how much their sale increased the revenue of the Company: that is something you cannot just put your finger on.

The old part of the building in which the plant is installed was built, I understand, for an ice manufacturing company; that is about sixty per cent of the total building. Our company has borrowed money in the city of Galveston at eight per cent.

There are other dealers in electrical appliances in Galveston, four or five I believe. To a certain extent they are competitors of ours; they do not carry as large a stock of appliances not as complete a stock either. I cannot say how long they have been in business, several years however. At least two of them were in business before we started. Our income and excess profit tax returns to the federal

government are made in the New York Office by Henry L. Doher & Company. We do not have copies of that, and I have not se it: the general books of the Company are kept in New York, a that part of it is handled there. We do not inspect that. Hen L. Doherty & Company are owners of the Brush Electric Compa property. We make monthly reports to them in detail. In a ge eral way the business is operated under their supervision. Befo we enter into any extensions or expenditures for anything oth than routine matters we have to be authorized by Henry L. Doher & Company; usually any expenditure of more than a hundred do lars is taken up with New York through a statement of operatio in advance. In other words, we make up a budget of operations a expenditures, and send in a requisition of expenditure, which a either approved or disapproved by the New York Office. To th extent they are in immediate supervision of the details of the bus ness. Items over a hundred dollars have to be taken up with the which necessitates very close attention on their part to the bus ness. For their services they receive the revenues of the Compan

We do not pay them out of our receipts and disbursement
286 and charge it on our books; we make remittances to the

We carry a bank balance here, of course, for current item That balance would vary from ten to forty thousand dollars; th average daily balance I would say is twenty thousand dollars. The moneys are remitted to New York. At times in an engineerin item, where an engineer is furnished, a certain percentage will b charged to us. That is all that is paid by Doherty & Company an charged on our books. They don't assess a charge against us fo a certain percentage.

I haven't any idea how old the "old" part of the building is; was built a good many years before my time. I think that buildin is in ninety per cent condition today in value and efficiency, that has not depreciated more than ten per cent. I believe in ten year if we do not spend another cent on it, it will not depreciate mo than five per cent more. I don't think the depreciation will be mo rapid in the future than it has been in the past. Probably, accordin to that, its life will be three hundred and eighty years. I don know how long that building will last, nor does anybody else. If has a life of thirty-eight years and does not depreciate any mo rapidly in the future it would have a life of three hundred and eigh years.

I believe there are three bands on the stack, put there five or s years ago. They were put on because of the crack that developed the stack up near the top. About April of this year two oth cracks appeared. We regarded it as dangerous now, or advisable take it down. I was consulted about that when we put this per cen condition in this report. At that time I knew this crack had d veloped six years ago and that this band had been put on it; th seemingly had cured that trouble. At the time we were putting th value on, I was assisting Mr. Cropper who lives in New York Ci He was engaged in that work about six weeks or two months, an came here for that purpose in September, 1919.

Our income and excess profit taxes for the last two years were paid by the New York office; that would not show on our books, the general books are kept in the New York office. No portion of it was charged back here, I think.

We feel that the business on Pelican Island will gradually
287 increase over quite a number of years. We do not expect any big business there for several years to come. We think it will grow as an industry there, with the gradual development of the port from the shipping industry. It depends absolutely on the shipping; if that develops, Pelican Island will develop too. It seems at the moment as if the prospects were unusually good in Galveston along that line. We think that the building and establishment of that dry dock there will help to bring other industries here.

In explanation of the increase of earnings of the Company in 1910, 1911 and 1912, I would say that I know in 1910 we had a large load filling the city and filling the causeway, on which they used an electric motor. I believe there was some of that in 1909, 1910 and 1911. I do not recall whether it ran into 1912 or not, but I am inclined to think it did. As to the increase in net earnings in 1915, as I recall in 1915 we were paying seventy-five cents for oil, and in addition to that we had quite a large load on the wharves of motors grinding cotton seed cake. I believe we attribute all of that to those two factors. In 1918 the net earnings dropped again,—and that was the year we applied for an increase in the rates by the addition of the surcharge. In 1918 there were hundreds of vacant houses caused directly almost by the conditions of the war, and many people had moved away from the city. That caused a great loss in the number of our customers; and I might say in addition to that that during the first three months of 1918 we paid $1.75 for oil; that would affect the earnings too. I believe we are just about now up to the same condition we were in prior to the storm of 1915 as far as inhabitants are concerned.

I believe the business of furnishing electric lights at the Galveston Beach is about equally divided. There has been a great increase in the business there during the summer season of 1920, resulting in a much larger consumption of *of* electric current for light and power every day. I believe that condition will continue in the future. I doubt if we have an increase in the next few years, it might
288 be possible. I believe I am safe in saying that our gross revenue since January 1, 1920, has increased over the corresponding period of 1919. I cannot give the percentage because I don't know the figures.

On Redirect Examination the witness testified as follows:

In testifying to the net figures given me by counsel I was not testifying as to the accuracy of those figures. If those figures have not had business expense deducted from them they should be altered.

The business on the beach only runs through the summer, there is practically none there during the winter. It runs about five

months during the year, resulting from excursionists and from beach resorts of various kinds.

F. C. HAMILTON, a witness for the plaintiff, was recalled for further cross-examination, and testified as follows:

I am employed, as I have said, by the Doherty interests in making the valuations of utilities at various places. I have not made any valuations for utilities for municipalities since I have been in business for myself. While I was in charge of valuation work for Harold Almert of Chicago, I did value some utilities for municipalities at Fremont, Nebraska, and Lake Forest, Illinois.

This reproduction estimate of value that I have given is based on what it would cost to build a plant identical with the one there at the present day prices. The history has no bearing in determining values, and I have disregarded it entirely. I know it has no value. In making my estimate of the overhead I did not make any examination of the books of the Company. The percentages fixed by me are only arbitrary in the sense that they are made on the experiences on properties that have been built and purchased and sold and promoted, and of which I had an accurate knowledge. They are not based on any facts disclosed by the books of this Company; ordinarily the books of the company do not disclose the overhead in connection with putting a property together. I
289 did not examine the books of the Company. I don't know whether the books of the Company disclose any fact upon which to base the overhead. There were no books in existence at the time this property was organized. I know of course in the operation of the Company following the organization the overheads would not be included on the books. I made no examination to ascertain whether the books in fact disclosed any charges upon which to base my estimate on the *the* overhead, and I would not have paid any attention to them if they had. The books had absolutely nothing to do with it whatever.

In answer to questions by the Special Master the witness continued:

On the theory of the reproduction of the plant, say, at the date of this hearing, I would estimate what it would cost to build that plant as of this date as if there was no plant there. Therefore, whatever the plant may have actually cost has nothing to do with it. It is what it will cost to build it today—exactly as I would determine the value of any other article in the world.

Resuming his testimony on cross-examination, the witness continued:

If the books of the Company show anything with reference to overhead as having been incurred by the present Company or its predecessor, I would not take that fact into consideration.

I am not an attorney-at-law. I am thirty-four years old. I have been in business for myself since 1917.

W. R. PHIPPS, a witness for plaintiff, being recalled testified as follows:

On direct examination:

No one has even asked me for the minutes of the Brush Electric Company or of the Brush Electric Light and Power Company, or of both companies, for any particular period of time. No one has ever asked for the minutes covered by the period from 1909 to April 11, 1912. I did not hesitate at any time to furnish these gentlemen with all the books and files at my command. I gave them everything that I had, which they asked for, so far as I knew.

290 These are the minutes of the old Brush Electric Light and Power Company which you hand me, from 1909 to April 11, 1912. The first time I knew that these gentlemen wanted these minutes and had not seen them, was when it was brought out in the evidence here. I then instituted a search for them, and in explanation I will say that that is a part of the old minute book that went through the 1915 storm. It was in our safe on the ground floor, and you can see from the appearance that it has been in water, and we found it yesterday in the safe downstairs. We had a safe upstairs in the bookkeeping department and a small safe down below.

The minutes referred to and testified about by the witness W. R. Phipps, together with the report of the president to the stockholders, were in open court tendered and delivered by plaintiff to the attorneys for defendants.

Plaintiff introduced in evidence a deed dated March 30, 1912, from The Brush Electric Light and Power Company of Galveston to Brush Electric Company, conveying to the latter, for the recited consideration of "the sum of ten dollars ($10.00) and other valuable considerations" paid and delivered by grantee to grantor, receipt of which is acknowledged, all and singular the property, real, personal and mixed, rights, privileges, easements and franchises of every nature and description whatsoever and wherever situated, reciting that the rights, privileges and franchises granted to said grantor by the ordinance of the City of Galveston of March 16, 1911, already introduced in evidence, entitled "An Ordinance granting to The Brush Electric Light and Power Company of Galveston, the right, privilege and franchise to own, set, construct," etc., had already been transferred, assigned and conveyed by said grantor to said grantee by a transfer, assignment and conveyance dated March 18, 1912, and specifically conveying to grantee the lots and parcels of land in Block four hundred and forty-six (446) in the City and County of Galveston, and all improvements, structures, buildings, plant and apparatus

291 thereon situated, being the same lots on which plaintiff's power house and appurtenant machinery and equipment and appparatus is situated, and the same described in Mr. Elrod's testimony and in Exhibit 16, Part I.

Defendants introduced in evidence the Brush Electric Company's tax renditions for the years 1916 to 1920, both inclusive, marked Exhibit 22, same being as follows:

Year.	City.	State and county.
1916	$319,650.00	$274,500.00
1917	329,650.00	280,500.00
1918	329,000.00	284,671.00
1919	347,900.00	279,420.00
1920	358,577.00	290,077.00

Attorneys for defendants admitted in open court that it had never been customary in Galveston to render property, either personal or real estate, at its full value, and that the renditions for the City of Galveston were on the basis of 77% for real estate and 50% for personal property.

Defendants introduced in evidence Brush Electric Company's annual franchise tax reports made to the Secretary of State of the State of Texas, for the years 1913, 1914, 1915, and 1919, same being as follows:

292 *Utilities Report for the Year Entind December 31st, 1919.*

To the Secretary of State, Austin, Texas.

SIR:

The following is submitted in compliance with Chapter 33, General Laws, 1905:

1. Authorized capital stock		$2,500,000.00
(*a*) Amount of capital stock issued	$2,500,000	
(*b*) Amount of common stock issued	$2,000.00	
(*c*) Amount of preferred stock issued	500,000	
(*d*) Amount due on unpaid stock	none.	
2. Amount of bonded indebtedness		1,265,000
(*a*) Number of bonds sold	1,265	
(*b*) Rate of interest on bonds	5%	
(*c*) Bonds mature April 1, 1952.		
(*d*) Price at which bonds were sold	.....	
3. Other fixed lien or mortgage on property of corporation		none.
4. Amount of floating indebtedness, including all bills payable of whatever nature		50,197.85

5. Value of visible tangible property		290,077.45
(a) Lands	$20,000	
(b) Machinery	.....	
(c) Buildings	20,000	
(d) Tracks	.....	
(e) Equipment	175,000 00	
(f) Bills Receivable	66,265.09	
(g) Cash on hand	8,812.36	
6. Annual cost of operating		214,170.47
(a) Amount paid for salaries	34,664.18	
(b) Amount paid for labor	39,606.72	
Taxes	13,565.16	
(c) Fixed charges, including interest	4,577.10	
Insurance	2,786.94	
(d) Amount paid for fuel	76,913.51	
Repairs	.....	
(e) Amount paid for extensions	.....	
Maintenance	18,041.32#	
(f) Amount paid for claims of suits for damages	3,600.00	
(g) Miscellaneous expenses	20,415.54	
7. Amount of annual gross earnings		298,568.44
(a) For light	203,044.10	
(b) For sewerage	.....	
(c) For power	95,564.34	
(d) For water	.....	
(e) For gas	.....	
(f) For fares and tickets	.....	
Price charged public:		
(a) For sewerage	.....	
(b) For gas (per M feet)	.....	
(c) For water (per M gals.)	.....	
(d) For light (per KW h)	Per schedule	
(e) For power (per M watts)	Per schedule	
Price charged city or town under contract:		
(a) For water (No hydrants)	.....	
(b) For Light (No. of *act* lights	3.15¢ per KWH	

#Maintenance.

BRUSH ELECTRIC CO.,
A. F. DE LOACH,
Secy.

Town: ——.
Date April 8th, 1920.

The above report is made upon basis of return earned on the investment and on basis used by other taxpayers.

293 *Report for the Year Ending December 31st, 1915.*

To the Secretary of State, Austin, Texas:

SIR:

The following is submitted in compliance with Chapter 33, General Laws, 1905:

1. Authorized Capital Stock			$2,500,000
(*a*) Amount of capital stock issued	$2,500,000		
(*b*) Amount of common stock issued	2,000,000		
(*c*) Amount of preferred stock issued	500,000		
(*d*) Amount due on unpaid stock	none.		
2. Amount of bonded indebtedness			1,500,000
(*a*) Number of bonds sold	1,500		
(*b*) Rate of interest on bonds	5%		
(*c*) Bonds mature April 1st, 1952.			
(*d*) Price at which bonds were sold	.....		
3. Other fixed lien or mortgages on property of corporation			non
4. Amount of floating indebtedness, including all bills payable of whatever nature			44,812.2
5. Value of visible tangible property			264,622.0
(*a*) Lands	20,000		
(*b*) Machinery	See E		
(*c*) Buildings	20,000		
(*d*) Tracks	none.		
(*e*) Equipment	175,000		
(*f*) Bills receivable	50,558.81		
(*g*) Cash on hand, overdraft.	*936.76		
6. Annual cost of operating			218,314.9
(*a*) Amount paid for salaries	30,000.00		
(*b*) Amount paid for labor.	22,019.80		
Taxes	10,604.48		
(*c*) Fixed charges, including interest	84,389.51		
Insurance	3,412.66		
(*d*) Amount paid for fuel	40,515.07		
Repairs included in maintenance	.....		

[*Red in copy.]

(e) Amount paid for extensions	2,319.63	
(f) Amount paid for claims or suits for damages	1,616.77	
(g) Miscellaneous expenses	15,539.42	
7. Amount of Annual Gross Earnings		277,314.02
(a) For light	200,862.47	
(b) For sewerage	none.	
(c) For power	76,451.55	
(d) For water	none.	
(e) For gas	none.	
(f) For fares and tickets	none.	
Price charged public:		
(a) For sewerage	none.	
(b) For gas (per M feet)	none.	
(c) For water (per M gals.)	none.	
(d) For light (per KW h)	12.7	
Maximum 5% disc. if paid in 10 days		
(e) For power (per M watts)	10¢ Max.	
5% disc. if paid in 10 days		
Price charged city or town under contract:		
(a) For water (No. hydrants)	none.	
(b) For light (No. of arc lights)	none.	

GALVESTON PLANT OF BRUSH ELECTRIC CO.,
K. E. MASON,
Secretary-Treas.

Town: Galveston, Texas.
Date: March 21st, 1916.

294 *Report for the Year Ending December 31st, 1913.*

To the Secretary of State, Austin, Texas:

SIR:

The following is submitted in compliance with Chapter 33, General Laws, 1905:

1. Authorized capital stock		$2,500,000.00
(a) Amount of capital stock issued	$2,500,000	
(b) Amount of common stock issued	2,000,000	
(c) Amount of preferred stock issued	500,000	
(d) Amount due on unpaid stock	none.	

2. Amount of bonded indebtedness		1,500,000
(*a*) Number of bonds sold	1,500	
(*b*) Rate of interest of bonds	5%	
(*c*) Bonds mature April 1st, 1952.		
(*d*) Price at which bonds were sold	.....	
3. Other fixed lien or mortgages on property of corporation		none
4. Amount of floating indebtedness, including all bills payable of whatever nature		121,076.3
5. Value of visible tangible property		268,557.0
(*a*) Lands	$20,000	
(*b*) Machinery	.....	
(*c*) Buildings	20,000	
(*d*) Tracks	.....	
(*e*) Equipment, Plant & Mcy	175,000	
(*f*) Bills receivable	50,269	
(*g*) Cash on hand	3,248	
6. Annual cost of operating		225,332.2
(*a*) Amount paid for salaries	30,633.65	
(*b*) Amount paid for labor	15,392.00	
Taxes	12,306.17	
(*c*) Fixed charges, including interest	80,224.36	
Insurance	2,601.60	
(*d*) Amount paid for fuel	52,546.66	
Repairs	.....	
(*e*) Amount paid for extensions	12,634.36	
Maintenance	6,584.65	
(*f*) Amount paid for claims on suits for damages	1,073.30	
(*g*) Miscellaneous expenses	11,335.47	
7. Amount of annual gross earnings		262,175.3
(*a*) For light	163,838.82	
(*b*) For sewerage	.....	
(*c*) For power	98,336.75	
(*d*) For water	.....	
(*e*) For gas	.....	
(*f*) For fares and tickets	.....	
Price charged public		
(*a*) For sewerage	.....	
(*b*) For gas (per M feet)	.....	
(*c*) For water (per M gals)	.....	
(*d*) For light (per K. W. h.)	15¢ with discount	
(*e*) For power (per M watts)	10¢ with discount	
(*f*) Fare charged passenger	.....	

Price charged city or town under contract

(*a*) For water (No. of hydrants) ....

(*b*) For light (No. of arc lights) ....

GALVESTON PLANT OF BRUSH ELECTRIC COMPANY OF DELAWARE.
K. E. MASON,
Secy.-Treas.

Town: Galveston.
Date: March 26, 1914.

295 *Report for the Year Ending December 31st, 1914.*

To the Secretary of State, Austin, Texas:

SIR:

The following is submitted in compliance with Chapter 33, General Laws, 1905:

1. Authorized capital stock.....		$2,500,000.00
(*a*) Amount of capital stock issued	$2,500,000.00	
(*b*) Amount of common stock issued.....	$2,000,000.00	
(*c*) Amount of preferred stock issued.....	500,000.00	
(*d*) Amount due on unpaid stock	none.	
2. Amount of bonded indebtedness.....		1,500,000.00
(*a*) Number of bonds sold..	1,500	
(*b*) Rate of interest on bonds	5%	
(*c*) Bonds mature April 1st, 1952.		
(*d*) Price at which bonds were sold.....	.....	
3. Other fixed lien or mortgages on property of corporation		.....
4. Amount of floating indebtedness, including all bills payable of whatever nature.....		111,879.12
5. Value of visible tangible property.....		263,072.44
(*a*) Lands	$20,000.00	
(*b*) Machinery	See "E"	
(*c*) Buildings	20,000.00	
(*d*) Tracks	none.	
(*e*) Equipment	175,000.00	
(*f*) Bills receivable.....	47,249.32	
(*g*) Cash on hand.....	823.12	

6. Annual cost of operating.....		236,288.5
(*a*) Amount paid for salaries	31,276.30	
(*b*) Amount paid for labor..	14,707.20	
Taxes	12,280.23	
(*c*) Fixed charges, including interest	84,647.59	
Insurance ..... (Lbr. 2,163.87)	2,862.34	
(*d*) Amount paid for fuel...	48,385.66	
Repairs	See "E"	
(*e*) Amount paid for extension	3,227.46	
Maintenance (lbr. 4,750.51)	8,509.93	
(*f*) Amount paid for claims of suits for damages..	1,538.50	
(*g*) Miscellaneous expenses..	28,853.36	
7. Amount of annual gross earnings.....		277,565.6
(*a*) For light.....	176,178.97	
(*b*) For sewerage.....	none.	
(*c*) For power.....	101,386.09	
(*d*) For water.....	none.	
(*e*) For gas.....	none.	
(*f*) For fares and tickets...	none.	
Price charged public:		
(*a*) For sewerage.....	.....	
(*b*) For gas (per M feet)..	.....	
(*c*) For water (per M gals)	.....	
(*d*) For light (per K. W. h.)	15 cts.	
(*e*) For power (per M watts)	10 cts.	
(*f*) Fare charged passenger.	.....	
with sliding scale of discounts		
Price charged city or town under contract:		
(*a*) For water (No. hydrants	.....	
(*b*) For light (No. of arc lights)	.....	

GALVESTON PLANT OF BRUSH ELECTRIC COMPANY.
K. E. MASON, *Secy.-Treas.*

Town: Galveston.
Date: March 31, 1915.

296 Defendants introduced in evidence the affidavit of T. G. Sayers, and the tabulations accompanying same, which are as follows:

T. G. Sayers, being duly sworn deposes and says that he is the auditor employed by Henry Exall Elrod Company to assist in audi

ing the books and accounts of Brush Electric Company in the City of Galveston, Texas, and that on the 28th day of September, 1920, deponent made an examination of the books of said company relating to charges to operating expenses and amount of surcharge earned during the twelve months from August 1, 1919 to July 31, 1920, appearing in the statement containing twelve pages testified to by Mr. F. C. Hamilton and offered in evidence before the special master at the hearings upon the trial of the above entitled cause, and that the annexed statement relating to fire adjustment expense, sur-charge bad debts actually written off and storm adjustment expense are correctly taken from the entrees on the books of the plaintiff Brush Electric Company during the period above mentioned and correctly represent the entrees therein relating thereto.

With respect to the amount of sur-charge billed by the plaintiff as shown on the books during the period from August 1919 to July, 1920, inclusive, the amount billed for the month of April, 1920, is shown to be $8,131.42, which amount contains an item of $4,983.04 billed to the Santa Fe Railroad Company which accrued from September 1st, 1918, and which it had refused to pay up to that time; one-half of said sum of $4,983.04 accrued during the period from August 1, 1919 up to the time of said billing in April, 1920, and one-half of said amount should be deducted from the amount of sur-charge billed during said period, to-wit: $45,255.22 in order to arrive at the correct amount of sur-charge.

The actual amount of bad debts written off by the plaintiff company for the period from August 1, 1919, to July 31, 1920, inclusive, was the sum of $4,401.45.

In reference to the fire adjustment expense the books of
297 said company show that from August, 1919, to July, 1920, inclusive, there was charged to operations the sum of $6,379.99 in the monthly amounts shown on the annexed statement.

(Sgd.) T. G. SAYERS.

Subscribed and sworn to before me this the 29th day of September, A. D. 1920.

(Sgd.) GEO. P. PRENDERGAST,
[SEAL.] *Notary Public in and for Galveston County, Texas.*

Page 1.

Sur-Charge.

Brush Electric Company, Galveston, Texas.

For the Period 8-1-1919–7-31-1920.

August, 1919		$2,926.60	
Sept.,	"	2,863.37	
Oct.,	"	2,871.14	
Nov.,	"	3,211.37	
Dec.,	"	3,547.81	
			$15,520.2
Jan.,	1920	3,976.50	
Feb.,	"	3,634.39	
Mar.,	"	3,341.60	
Apr.,	"	8,131.42 (A)	
May,	"	3,252.60	
June,	"	3,711.89	
July,	"	3,686.45	
			29,734.9
			$45,255.2

(A) Contains an amt. of $4,983.04 vs. Santa Fe for surcharge which accr
from some time in 1918, which they had refused to pay.

Page 2.

Bad Debts Actually Written Off.

Brush Electric Co., Galveston, Texas.

For the Period 8-1-1919–7-31-1920.

$4,401.45.

Page 3.

Fire Adjustment Expense.

Brush Electric Co., Galveston, Texas.

For the Period 8-1-1919–7-31-1920.

g, 1919	$450.00	
t., "	450.00	
., "	450.00	
r., "	450.00	
r., "	450.00	
		$2,250.00
., 1920	450.00	
., "	454.99	
r., "	450.00	
r., "	450.00	
y, "	775.00	
ne, "	775.00	
y, "	775.00	
		4,129.99
Amt. charged operations		$6,379.99

Page 3.

Storm Adjustment Expense.

Brush Electric Co., Galveston, Texas.

For the Period 8-1-1920–7-31-1920.

Amt. charged operations	$2,200.2

299 Page 5.

1918 *Fire Adjustment.*

Brush Electric Co., Galveston, Texas.

Amount of Insurance Collected from Bank and Trust Co.	$32,145.8
Fire Job Orders	47,763.8
Loss not covered by Ins.	15,617.8
Ch'g'd Oper. in 1919	2,250.0
Remained at 12-31,1919 to be distributed	13,367.8
Ch'g'd Oper. in period 1-1-1920–7-21-1920	4,129.0
Remained at 7-21-1920 to be distributed	$9,238.0

Defendants introduced in evidence the affidavit of Henry E. Elrod which is as follows:

HENRY E. ELROD, being duly sworn, deposes and says in answ to part of the testimony of F. C. Hamilton, in this cause:

Omissions and Contingencies.

While I agree with Mr. Hamilton that it is "not humanly po sible" for one engineer to make an inventory of a plant of th character of the plaintiff company's plant, without overlookin some item, or items of value, I contend that it is practically impo sible for an engineer, if he be a competent one, to omit any sing major item of installation or construction. The major items o equipment—boilers, generators, converters, etc.,—constitu
300 the bulk of the values in the plaintiff company's plant; thes items have a definite value and there is no reasonable excu for the failure of the appraising engineer to apply this definite val fully. Why then, is it necessary to impose an additional sum up the already full value of these items, to cover an imaginary co which has not been incurred?

In preparing an inventory of the plant piping, wiring and miscellaneous smaller items of construction, it is not only possible, but quite probable, that some omissions will occur, but as surely as omissions will occur, over-counts and duplications will occur also, which, by and large, will practically neutralize each other. But even if they do not, it is patently unfair to apply a percentage equal to one twentieth of the cost of the entire plant, to cover the probable omission of a few minor items of inconsiderable value.

There is no foundation in fact to warrant the inclusion of any amount of omissions and contingencies in connection with the cost of reproduction of the plaintiff company's buildings and structures. It is a matter of common knowledge in Galveston that, for buildings of moderate proportions, such as those of the plaintiff company, foundation conditions are practically ideal.

It is customary for contractors to add 5% to their estimates of the cost of buildings to be constructed, for the purpose of covering possible omissions, fluctuations in the cost of materials, the lack of completeness of plans and specifications, etc., but to add a similar amount to the appraised cost of a building already in place, with the complete history of constructional conditions under which the building was erected, available, is an entirely different matter. In the first instance, the contractor, in preparing his estimate for competitive bidding, assumes the lowest cost of labor and materials possible, which will return a reasonable profit to him, in order that his bid may be low enough to receive consideration. His estimates are prepared from plans, which, as every one knows who has had any experience in construction work, are never absolutely complete in every detail and generally are quite lacking in minor detail. In the other instance, the appraising engineer has an entirely completed structure before him, which is susceptible of accurate measurement and count and the visualization of every detail of construction. In this instance, the appraising engineer, if he be in the service of a public utility and expects to retain his position, uses his utmost ability to fully include every item of value and to apply the highest unit values of labor and materials possible consistent with honesty. I will add, in fairness, that appraising engineers in the service of the public, will be just as zealous in their endeavors to include every item of value and to apply unit costs of labor and materials at just as low a level as is consistent with honesty. If the plaintiff company's plant were suddenly blotted out and it was put to the necessity of reproducing it, would it let a contract for the reproduction of same on the basis of Mr. Hamilton's estimates. Assuredly would not. It would ask for bids for the reconstruction and would award a contract for the work to the reputable contractor whose bid was the lowest.

As to the Distribution System of the plaintiff company: There are listed 2,845 poles in the system; does it seem possible in counting poles that 152 have been overlooked? Or that 482 transformers listed as in service should be 506 instead? Or that the 4,427 meters listed as in service are 233 meters short? The plaintiff company's system of records and maps preclude any such *possible*. *It is*

reasonable to apply a sum for omissions and contingencies on a stock of meters and transformers in reserve? Mr. Hamilton's "omissions and contingencies" apply to transformers and meters in reserve. It is reasonable, however, to assume that, in inventorying the smaller items of the distribution system—pins and insulators, cross arms, brackets, etc.,—errors will be made. But is it reasonable to assume that these errors will invariably be errors of omission? As a matter of fact, I have never checked an inventory of a distribution system in which duplications did not occur, as well as under-counts and over-counts. These under- and over-counts will, by the law of averages, neutralize each other. If it is fair to the utility to allow 5% for omissions—under-counts—in the distribution system, would it not be equally fair to allow the public a discount of 5%
for over-counts?

302 Mr. Hamilton's "Omissions and Contingencies" is applied to smake stacks admitted to be worthless. These items are estaimated at more than $12,000. This item of $12,000, pyramided through all of his "over-heads" amounts to finally $16,060.

Engineering and Supervision.

Were the Brush Electric Company's properties to be blotted out, it would become necessary to engage the services of engineers and supervisors to plan and supervise the reproduction of the properties, and the cost of these services would be legitimate additions to capital values. But this is a hypothetical supposition; it has never happened and there is no chance that it will ever happen. I can conceive of no condition which would justify the allowance of a sum of the magnitude of that set up by Mr. Hamilton for this item, with no better base than a hypothetical supposition that if the properties of the plaintiff company had to be reproduced, it would cost that much for engineering and supervision.

That the inclusion, in capital values, of some sum to cover engineering and supervision is fair, cannot be denied; every item of construction or installation, has had, at some time, some master mind to plan and direct its construction or installation. But it is not what the engineering or supervision originally cost some one, or many, but what the Brush Electric Company actually expended for engineering and supervision, that is to be given consideration. For many years the general manager of the predecessor company was also its chief engineer; his salary and the salaries of his assistant engineers were invariably charged to operating expenses, which the public paid through rates. Can these charges again be set up and be repaid by the public, with any degree of fairness to the public?

In agreeing that certain sums represented the value of the "live bones" of the plaintiff company's properties, and did not include Engineering and Supervision, I did not contemplate, nor do I believe that it was contemplated by the consignor or the agreement referred to, that the cost of engineering and supervision was to
303 be eliminated from the cost of manufactured items of equipment, of which the cost of engineering and supervision is a

inherent and integral part. The plaintiff company cannot successfully sustain an assertion that it has ever paid any sum for engineering and supervision on any of its major or other—items of manufactureed equipment, not included in the values as set up in its inventory and designated in the agreement heretofore referred to as "bare bones".

I have allowed the sum of $— for the item of Engineering and Supervision; I have done this to avoid doing the plaintiff company possible injustice, in case it has actually paid any engineering and supervision costs in the past, not charged to operating expenses; I have been unable to locate any such charges, however. I believe that the amount allowed in this instance is more than the plaintiff company has ever spent, all told, for engineering and supervision, but as stated, I would rather the allowance be more, than less, than the said company is entitled to.

Insurance During Construction.

This item does not appear in the Exhibit referred to. Were I to admit that the plaintiff company is entitled to have a value for its present properties, equal to the estimated cost of a hypothetical property to be hypothetically reproduced by hypothetical contractors with hypothetical labor and materials, as of the present date, I would be inclined to allow this item, if it could be shown, that 1% is the reasonable percentage of the total estimated cost of the hypothetical plant, to apply to "Insurance During Construction". As a matter of fact, however, all insurance ever actually paid by the plaintiff company has been returned to said company through operating expenses paid by the public through rates for service, hence should not now be included in the value of the properties upon which rates for service are to be predicated, at this time.

It is apparent that, on second thought, Mr. Hamilton concluded that the sum of $28,896, set up in his Exhibit No. 13, page 304 129, as the value of "Organization and Legal Expense" was too large, so devised "Insurance During Construction" to reduce it, without reducing his grand total.

Administration and Legal Expense.

This item appears in Mr. Hamilton's Exhibit No. 13, page 129, heretofore referred to as "Organization and Legal Expense" and its value placed at 3% of $963,194, or $28,896. In his present affidavit Mr. Hamilton evidently endeavored to reduce this amount by the value of "Insurance During Construction", which he gives as 1%, but does not state upon what sum the 1% is to apply. If it applies to the sum of $963,194, the value of "Insurance During Construction" would be $9,631.94. If his plan of adding each new value found to the next above value is followed in this instance, the value of "Administration and Legal Expense" would be, as he now calculates it, 2% on $972,826 or $19,456; or, if he intended that the value

should be 2% of $963,194, then Administration and Legal Expense would cost $19,264, and not $16,676, as he has it in his present affidavit. But be that as it may, the fact remains that the plaintiff company has never expended, according to its records, more than $11,404.06 for "Organization and Legal Expenses. The records give this expenditure in detail and the addition of this amount is a legitimate addition to capital values. I see no reason why an arbitrarily estimated amount should apply here, when the actual amount expended is readily ascertainable.

Taxes During Construction.

This item has been fully taken care of in operating expenses; the plaintiff company has always charged taxes of all kinds to operations and has never allocated any part of taxes paid to Capital Account for "Taxes During Construction". As a matter of fact, the construction of the plaintiff company's plant was accomplished by "piece meal" and there is no record of any single item of construction having required as much time as one year to construct. All taxes having been paid for by the public through rates for service the public should not be required to pay them again.

(Note difference in Exhibit and Affidavit.)

305 Preliminary Operation and Adaptation.

The same statement applies to this item as to "Insurance During Construction", given hereinbefore.

Development Expense.

This item does not appear in Mr. Hamilton's Exhibit No. 13, page 129. To allow a claim of this kind would result in forcing the public to pay out considerable sums of real money annually to cover an imaginary expense which never has been, and never will be, incurred. The theory is ingen-ous and admirable from the utility view point, but in practice, it is simply a plan to secure increased values, based upon nothing more than hypothetical supposition. Suppose for instance that the properties of the plaintiff company were to be blotted out of existence and that the Galveston Electric Company's plant were of insufficient size to take care of the customers of the plaintiff company. The plaintiff company immediately erects another plant—reproduces in fact, its old plant and opens its doors for business. How much solicitation, how much examination of customers' premises and how much other expense would be required to secure sufficient patronage to justify the company in operating its plant. It is true that the plaintiff company does solicit patronage and that this solicitation costs money and that it costs money to install service on a customer's premises. It is also true that the plaintiff company has invariably charged all such expenses incurred to operating expenses and these same customers have paid these charges through rates for the service rendered. Is it fair to include these charges in

operating expenses and also add the amount thereof to capital values as a basis for rates? A simple statement of the case shows the ridiculousness of this claim.

Going Concern Value.

"Going Concern Value" is the value that attaches to a business by reason of the fact that it is established and is in successful operation. There is no denying the fact that a utility having an established business, is more valuable than an identical one, having no
306 business; this much agreed to it become necessary to measure the value that inheres in a property, by reason of its being a "Going Concern". Two general methods of ascertaining, or measuring this value, are in more or less general use. One method, that known as the Alvord Method, is generally used by the utilities and is the method used by Mr. Hamilton, in the present case. The other method, that known as the Wisconsin Method, is generally used by the engineers serving the public and is the method used by me in this case.

As Mr. Hamilton explains, the Alvord Method is based on the determination of the cost of reproduction of an identical plant and the sacrifice of income which an inventor would have to make providing he were to construct an identical plant and have the possession of the income postponed until the reproduced or hypothetical plant were put into operation, instead of entering immediately into possession of an existing plant, having an established business. This method has nothing to recommend it, in my opinion, other than the fact that it is an ingenious instrument in the hands of the utility engineer to assist him to arrive at whatever "Going Concern Value" he feels "the traffic will bear." First, he must determine the cost of constructing the hypothetical plant, with its long list of supposititious over-heads and intangibles; then, having made this determination to suit the conditions of values desired, he must determine, in his own mind, how long it would take to construct this hypothetical identical plant; by fixing the period of construction at one year, he gets a certain value for "Going Concern"; if that is not enough, it is an easy matter to increase the period of construction to one and one half years, and so on. If the plant under consideration is an old one and there are several items of equipment in it which are obsolete and no longer manufactured, and an identical plant must be reproduced, hypothetically, the valuing engineer might have to extend his period of construction over several years, waiting for a hypothetical manufacturing plant to build equipment to manufacture the obsolete items of equipment necessary to reproduce the identical plant. All of this is, of course, fanciful and fantastic, but no
307 more so, in my opinion, than the use of the Alvord Method of ascertaining the amount of a sum to be added to the capital values of a utility upon which to base rates for services for which the public must pay, without being given the opportunity to increase the value of the paying medium through any such hypothetical and mythical methods.

The Wisconsin Method of determining "Going Concern Valu is based upon the consideration of tangible facts—matters of recor The measure of value of "Going Concern" is the amount of actual- not estimated—income an investor has actually had to sacrifice bring the present business—not a hypothetical one—up to its pre ent condition of successful operation. This sacrifice of income h included every item of cost, whether tangible or intangible, upo which the investor has failed to receive a fair return. Thus, com prehended under the term "Going Concern Value" are the defici of fair return on expenditures for promotion, organization and leg expense, interest during construction, insurance and taxes durin construction, preliminary operation and adaptation, attaching bus ness (soliciting and advertising, etc.) as well as on the investmen in the physical properties themselves.

It has been argued that the application of the Wisconsin metho fosters bad management of plants, as a poorly managed plant woul be more likely to sustain losses than an efficiently managed plant thus the poorly managed plant would be entitled to a larger "Goin Concern Value." Such an argument impresses me as being absurd In the past, utility operators managed their plants to the best o their ability, with the idea of making all the money that coul possibly be gotten out of the business; that they sustained losse year after year with the idea of having the public, at some futur day, return these losses to them in the form of "Going Concer Value," is extremely ridiculous to contemplate. At the presen time, what utility owner would contenance the inefficient manage ment of his property, with the hope that next year, perhaps, th public would investigate his rates for service and reimburse him fo the losses he is now sustaining?

In the instant case, the records of the plaintiff company reflect the losses sustained from the operation of its properties, since
308 1889, when such utilities had become public necessities and were fairly entitled, as public utilities to earn fair returns on their investments, and no more. I have taken the full recorded value of the company's properties, from 1890 to 1919, inclusive, as the base for calculations of "Going Concern Value"; have taken 8 per cent as the fair rate of return; have deducted 4 per cent for depreciation and added the amount of depreciation thus deducted to the amount of allowable return, to create a depreciation reserve; have added to property values a sum equal to 10% of the annual gross earnings of Working Capital. Amounts equal to the deficits of allowable return over actual returns have been capitalized at the fair rate of return and compounded annually; the surpluses of actual returns over allowable returns have, likewise, been capitalized at the rate of fair return and compounded annually. The difference between the total compounded deficits and the total compounded surpluses is the amount or measure, of Going Concern Value. It develops that the surpluses have exceeded the deficits, which indicates that the plaintiff company has already been compensated for its sacrifice of income through earnings in excess of a fair return.

hence is not entitled to have a further allowance now for "Going Concern Value."

It is further shown that (See Table No. 2, Exhibit No. —) the plaintiff has directly earned, over and above a fair return, plus depreciation, on the recorded value of its properties, a sum far in excess of the sum it now asks for Going Concern Value. This being the case, I can see no good reason why any sum, whatever, should be allowed to be added to the capital account of the plaintiff company for Going Concern Value, or any "over-head" or intangible value not supported by the records of the plaintiff company.

(Sgd.) HENRY E. ELROD.

Subscribed and sworn to before me this 27th day of September, A. D. 1920.

[SEAL.] (Sgd.) JAS. W. WAYMAN,
Notary Public in and for Galveston County, Texas.

Defendant rested.

309 F. C. HAMILTON, witness for plaintiff, was recalled for further direct examination, and testified as follows:

In my business I have knowledge of the quotations of securities and borrowing money on utility corporations, and I am from time to time called in to assist in the quotation of such securities and to prepare the valuations for loans, either temporary or for the purchase of the part of the bonding companies or banks of securities which buy various public utilities' securities, or to appear before public utility commissions in the various states where their approval is necessary for the issuance of the securities. There is not much comparison in the rate now and twelve months ago, for the reason that twelve months ago, and for eighteen months prior to that, it was almost impossible to secure money, it was not a question of the rate. But to compare it with 1914, for instance, and the period immediately preceding that for five or six years, with which I am familiar, the interest rate at present requires by various bonding companies and syndicates is at least seventy-five per cent higher than it was at that time. During the war, or the time especially when we were in the war, it was impossible to float long time securities, and the loans that were made at that time, were made on the basis of one year and two years, necessary to carry through the war period. On public utilities, from the history of past earnings, and back of it, money during that period could be secured on two-year paper provided good securities were put up in addition to the credit of the Company borrowing it, for at least fifty or seventy-five per cent of the total loan. I mean in addition to the plant, for about ten or twelve per cent. Usually the interest rate shown on the face of the paper was eight per cent, but the premium to the bonding company and the discount and interest when they were finally sold, made the average rate from ten to twelve per cent that

the company paid for the money; and that could only be secured on property that had a record of earning back of that, and on a property like the Brush Electric Company at Galveston it would have been necessary to have executed the note, and for those notes to be endorsed by Henry L. Doherty & Company for instance, so as to give additional security, either that or the Doherty & Com-
310 pany people would have had to aid with the Brush Electric Company as they did with many other utilities where extensions were required, that is, loan the local company good bonds or stocks to at least seventy-five per cent of the total loan, that was given the Brush Electric Company to be put up as collateral. With reference to recent flotation of public utility obligations, I am familiar with two in which I took part, both on Ohio properties, for the sale of securities approval by the public utility commission, or the issuance of which was approved by the public utility commission of Ohio. In one instance, the best interest payment would be ten and one-half per cent, and in the other about eleven and three-tenths per cent. That is on the basis of the interest specified in the securities plus the discount at which the paper was sold, so that the money actually acquired cost that much. It is not possible in this country for a public utility, in the sense of a plant like the Brush Electric Company, to borrow money on a lower basis than that. The Pennsylvania Railroad attempted to issue seven per cent notes or bonds at par, and the market would not absorb them. The Pennsylvania Railroad has not over thirty per cent of their plant bonded and have been looked upon by the investing public as next to the United States Government, practically, in the bond market.

On Cross Examination the witness testified as follows:

In the instance I speak of in Ohio the money was borrowed for five years in one case, and for ten in another. The rate of interest in both cases was eight per cent. The difference is made up in discounts allowed to the ultimate purchaser. In other words, he did not pay par for the bonds, no more than could be gotten for the Pennsylvania stuff that was put out. In a case like that I would say that the extra discount that is paid should be spread out over the life of the securities that were issued and retired in that manner. That would not make an eight per cent interest rate annually. The discount in one case was twenty per cent, and in the other fifteen per cent. You cannot sell public utility bonds or stock at par. These flotations I speak of were made forty-five and ninety days back. That was not at the time of the most stringent condition we have had; prior to that time and a year back from now, you
311 could not put out anything of that nature at all. During that period, one year and two years with large collateral was the common method of financing the extensions that necessarily had to be made. To a certain extent the unusual condition was attributable to the policies adopted by the Federal Reserve Bank and other banking interest in an endeavor to contract outstanding loans and credits with a view to trying to reduce commodity and other

prices. And the Federal Reserve system within the last two months has gone farther than that by refusing to discount automobile paper: they have so told the banks. I don't know that Governor Harding has denied that any such policy has been adopted by the Federal Reserve system, but I do know that automobile paper is no longer subject to re-discount in the Federal Reserve system. This demand to contract the credit extends to other commodities only to the extent that the occasion was taken when it became necessary to restrict loans so the banks could retain their psrecribed percentage of cash that they are supposed to carry. In other words, every bank is trying to loan all the money it can up to the point where it would run counter to the law governing banks.

In answer to question by the Special Master the witness continued:

Maybe I have not made myself clear. My point was that the banks took no action to restrict loans until they began to approach the danger line, and then they picked out automobilees and restricted that because they considered that non-essential; not because they were non-essential, but because they had to restrict something and they picked on automobiles because they were non-essential.

Resuming his testimony on cross-examination the witness continued:

The condition I have just described is not temporary, except that it will be governed by the action of the various regulating bodies in allowing public utility companies to get their rates on a basis with current prices so that they can again establish the earnings they had formerly, and then when they get to that point their credit will come back. All high grade securities, through the
312 whole bond list of railroads and public utilities, have depreciated in value greatly since November 1919, and will continue until such time as the fixed amount of money which the bond yields begins to have its old-time value in purchasing power. The securities of Doherty & Company are of two kinds,—the bonds and stock of local utility companies, provided it is a utility property. The stock of those local utility properties is never put on the market itself, it is controlled and owned by the cities service company, which is surely a holding company, and the bonds may or may not be sold to the public. The cities service company itself on the basis of this ownership of these common stocks, issues a preferred and common stock itself, which is sold on the market; not secured by the stock of the local utilities as collateral, but their ownership is what is back of it. These securities are quoted in the market under the name of Cities Service Company. The bonds of local utilities are held exactly as they hold the common stock, and those come from the properties owned by the holding company as the basis for the issuing of these securities. They finance local properties individually and have been forced throughout this whole war period, like the other holding companies that have been in the utility business, to go to the extreme to get money because of the lack of credit in utility companies. However, the Cities Service Company was very fortunate in having an addition to their total income which

came from oil production, and the very upward trend of prices which deprived them of earnings on public utilities came back to them on their oil properties, and therefore have them a very good credit for borrowing, and on that credit they loaned money to the public utilities to keep them going through this war period. The Cities Service Company through its ownership of the Empire Gas and Fuel Company is the second company only to the Standard Oil Company in the production of oil and gas.

The Doherty interests purchased this property here in 1912. They have held the stock that has been issued and outstanding since then. I don't know whether they have held any of the bonds or not—I was not doing work for them at that time and I am
313 not positive about that. It is their general custom to retain only the stock. I believe it will be a long time before public utility securities will be very much higher, unless the public utility commissions begin to take some such radical step as the Interstate Commerce Commission did a short time ago in granting some relief to the railroads without a hearing practically, certainly without a valuation.

In answer to questions by the Special Master the witness continued:

The Interstate Commerce Commission can institute another hearing on their own initiative by giving thirty days' notice, I believe that is the practice the public utility commissions follow. The order did not say how long the rates shall last. If they want to lower it they can institute such *such* proceedings, and not only can they institute a proceeding but it can be instituted by the public for a city. The usual rule in the different states is that any ten citizens can constitute a proceeding on behalf of the state if the state authorities do not want to.

Plaintiff introduced in evidence the offer or bid for Boiler No. 2 referred to in the cross-examination of the witness Henry E. Elrod being in the form of a letter of August 28th, 1920, as follows:

"August 28th, 1920.

Brush Electric Co.,
City.

GENTLEMEN:

As per your request that I make you an offer for one of your class "Q" #2 Stirling water tube boilers, I hereby agree and contract to give you $8.50 per H. P. for this boiler with all its attachments without stack loaded on car. This transaction to be predicated upon 548 H. P.

Trusting this will meet with your approval, I am,

CONNELLEY & COMPANY.
Per EDW CONNELLEY."

314 E. D. CAVIN, a witness for plaintiff, being first duly sworn, testified as follows:

I wish to make this statement, if the Court please, upon a phase of the case that may come under consideration. The last election for members of the Board of Commissioners of the City of Galveston was held May 13th, 1919. At that election all the members of the Board of Commissioners then in office were candidates for re-election and all of them were members of the Board of Commissioners that passed the rate ordinance of 1918 that has been introduced in evidence, granting certain increases in the rates for electric current as shown thereby, and they were opposed by candidates of what was known as the City Party. During the campaign preceding the election of 1919 the rate for electric current as fixed by the ordinance of 1918 was one of the campaign issues and those rates were attacked by the candidates of the City Party, one plank of whose platform was "No raising of gas and electric rates and street car fares without the consent of the people." The said ordinance of 1918 was adopted by the Board of Commissioners without submission to popular vote. At the election held May 13th, 1919, the members of the old Board were defeated and the City Party candidates elected, and they qualified on the 22nd day of May, 1919, and on July 31, 1919, passed the ordinance sought to be enjoined in this case. On July 18, 1919, a notice was issued by the City Secretary on the order of the Board of Commissioners to the Brush Electric Company to appear on July 30, 1919, and show cause why the rates for electric current should not be reduced, and it was in response to that notice that on July 30, 1919, W. R. Phipps, Manager of the Brush Electric Company, submitted to the Board the statement that has been introduced in evidence and is here referred to and is Page 36, Exhibit 16, Part 1.

At this point plaintiff introduced in evidence certified copy of the notice referred to by the witness, same being as follows:

315 "Resolved, that the Board of Commissioners investigate the reasonableness of the rates charged for Electric Current by Galveston Electric Company and Brush Electric Company, and that each of said corporations be notified by the City Secretary to appear before the Board of Commissioners at the Council Chamber in the City Hall on July 30th, 1919, at 10 o'clock A. M., and show cause why the rates being charged by them for Electric Current in this City ought not to be reduced.

"I, John D. Kelley, Secretary of the Board of Commissioners of the City of Galveston, do hereby certify that the above and foregoing is a true and correct copy of a resolution passed and adopted by the Board of Commissioners of the City of Galveston at a meeting held July 17, 1919, as the same appears on file in my office.

"In testimony whereof, I have hereunto subscribed my official signature and affixed the corporate seal of the city of Galveston, this 18th day of July, A. D. 1919.

[SEAL.] (Signed) JOHN D. KELLEY,
Secretary of the Board of Commissioners
of the City of Galveston.

On Cross-Examination the witness testified as follows:

The ordinance that is in question in this case, which is the la ordinance, took effect immediately. There had been an increase i rates prior to that, in 1918. That was voted by the Board of Co missioners that were in opposition to the Commissioners that grant the last increase. At the time the increased rates were granted i 1918 they did not attempt any valuation of the properties of Bru Electric Company. I do not know in detail upon what evidence the proceeded in granting the increase of 1918. I had nothing to do wi those negotiations—they were had between a Committee of the Boa of Commissioners, of which I was not a member, and in consultati with the management of the Company, and I think the City Ele trician. They finally determined upon this increase in 1918.

316 do not know whether the Company at that time submitted the Board any statement as to the values of their properti upon which they asked that a return be granted. As a matte of fact I was not in Galveston from about the first part of Apri 1918, until November of that year. I don't know the value the claimed for the plant at the time they asked that the increase in N vember, 1918, be granted, but I know there had been no valuatio made of the properties. The only valuation for rate-making pu poses that has ever been made of the plaintiffs or its predecessors pro erty are those made in connection with this case. I had intended t put that in there. I also say that the rate ordinance of 1915 whic has been introduced in evidence is the first ordinance ever passed b the City of Galveston undertaking to regulate or fix rates for electri current. That is, I say, after making as full an investigation as I can.

Both parties rested.

17 *Evidence Taken Before the Court on January 21, 1921, and Subsequent Days After the Filing of the Master's Report.*

Plaintiff introduced in evidence the following tabulations, marked "Plaintiff's Exhibit A2," containing five pages, same being as follows:

(Page 1.)

Brush Electric Company.

Operating Comparison, Years Ending 1920.

Revenue.

	July 31st.	December 31st.
Net Municipal Sales	$17,680.69	$17,418.67
Commercial Sales:		
Metered	195,380.16	213,816.70
Contract (Flat Rate)	15,381.83	16,384.19
Minimum Bills	5,908.63	5,745.36
Gross Commercial Sales	216,670.62	235,946.25
Less Allowances	845.62	450.04
Net Commercial Sales	215,825.00	235,496.21
Power Sales:		
Metered	100,630.16	109,386.45
Contract (Flat Rate)	174.90	128.35
Minimum Bills	2,696.63	2,744.50
Gross Power Sales	103,501.69	112,259.30
Less Allowances	326.95	52.40
Net Power Sales	103,174.74	112,206.90
Total Net Sales	336,680.43	365,121.78
Forfeited discounts	2,399.22	2,332.49
Total	339,079.65	367,454.27
Deductions for bad debts	6,000.00	6,525.00
Gross Earnings from Operation	333,079.65	$360,929.27

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Brush Electric Company.

Operating Comparison, Years Ending 1920.

Operating Expenses.

	July 31st.	December 3
Production Operation	$82,829.97	$81,450.
Credits from other operation	1,705.36	1,927.
	81,124.61	79,523.
Customers' Dept. Operation	33,132.71	37,133.
General Dept. Operation	64,329.76	65,612.
Unclassified Operation	2,500.36	1,774.
Total Operation	181,087.44	184,044.
Production Dept. Maintenance	21,686.30	35,468.
Distribution Dept. Maintenance	7,425.21	7,873.
Customers' Dept. Maintenance	6,162.88	8,386.
Utility Equipment Maintenance	5,054.32	5,781.
Unclassified Maintenance	7,205.58	8,004.
Total Maintenance	47,534.29	$65,515.
Total Operation & Maintenance	228,621.73	249,560.
Depreciation Reserve:		
3.358% of $1,046,392.00	35,137.84	35,137.
Return:		
8% of $1,522,013.00	121,761.04	121,761.
Necessary Revenue	385,520.61	406,459.
Actual Revenue	333,079.65	360,929.
Deficit of fair return	52,440.96	45,529.

(Page 3.)

Brush Electric Company.

Estimated Revenue for 1921.

Revenue.

	Actual, 1920.	Estimated, 1921.
t Municipal Sales	$17,418.67	$17,420.00
Commercial Sales:		
etered	213,816.70	220,000.00
ntract (Flat Rate)	16,384.19	16,300.00
inimum Bills	5,745.36	5,800.00
Gross Commercial Sales	235,946.25	242,100.00
s Allowances	450.04	500.00
Net Commercial Sales	235,496.21	241,600.00
Power Sales:		
etered	109,386.45	110,000.00
ntract (Flat rate)	128.35	130.00
inimum bills	2,744.50	2,800.00
Gross Power Sales	112,259.30	112,930.00
s Allowances	52.40	200.00
Net Power Sales	112,206.90	112,730.00
Total Net Sales	365,121.78	371,750.00
rfeited discounts	2,332.49	2,400.00
Total	367,454.27	374,150.00
eductions for bad debts	6,525.00	6,525.00
Gross Earnings from Operation	360,929.27	367,625.00

320 (Page 4.)

Brush Electric Company.

Estimated Operation and Maintenance for 1921.

Operating Expenses.

	Actual, 1920.	Estimate 1921
Fuel Cost 61,062 Bbls. @ $2.037*	58,066.29	$124,38
Handling Fuel	40.00	15
Boiler water	3,235.43	3,23
Miscellaneous Supplies	1,932.82	1,95
Boiler Room labor	3,642.92	4,00
Generation Supplies & Expenses	3,111.50	3,12
Generator Room Labor	8,390.82	8,50
Generation Superintendence	2,040.00	3,20
Conversion Operation	988.01	98
Total Production Operation	81,450.79	149,53
Customers' Dept. Operation	37,133.77	37,00
General Dept. Operation	65,612.84	70,00
Unclassified Operation	1,774.55	1,77
	$185,971.95	$258,30
Credits from other operations	1,927.47	1,92
Total operation	184,044.48	256,38
Total Maintenance	65,515.65	65,00
Total Operation & Maintenance	$250,560.13	$321,38
Depreciation Reserve:		
3.358% of $1,046,392.00		35,13
Return:		
8% of $1,522,013.00		121,76
Necessary Revenue		$478,28
Estimated Revenue under present rates		367,62
Deficit of return		110,65
Proposed Reduction under 1919 Ordinance		58,30
Deficit under 1919 Ordinance Rates		168,95

*Fuel cost on basis of lowest bid now obtainable for one year from cont
about to expire. From Gulf Refining Company at their terminal $2.00
$8.76 per car switching charge.

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(Page 5.)

Brush Electric Company.

Estimated Operations for 1921.

ross Revenue from operation	$367,625.00
eduction of revenue if 1919 Ordinance Rate is enforced	58,300.61
	$309,324.39
perating expenses with fuel at present cost	321,381.73
Deficit of any amount applicable to depreciation reserve and return	12,057.34
epreciation reserve	35,137.84
eturn	121,761.04
Deficit under 1919 Ordinance Rates	$168,956.22

At this point plaintiff introduced in evidence a Valuation of the rush Electric Company, January 1, 1921, made by F. C. Hamilton, arked "Plaintiff's Exhibit A-3," and same will not be copied in e Statement of Evidence, but the original will be certified by the istrict Court and the Judge thereof, and sent up to the Supreme ourt as a part of the record.

F. C. HAMILTON, a witness for the plaintiff, being first duly sworn, answer to questions by the Court testified as follows:

As you will note on Page 1, (Tabulation, Exhibit A-2), I have put the figures that were testified to before the Master in the first olumn and then beside that I have put in the year last available so the Court could compare the figures already presented with 22 those that show the operating expenses and revenue for the year ending December 31st, which are the last available gures. These figures do not indicate the expenses in the last half the year. They will indicate whether any change has taken ace. For instance, "Net Municipal Sales," in that first item show small drop in the revenue which would indicate that the revenue the months from July 31st to December 31st, of this year were st slightly less than they were for the year which the Master had nder consideration in the same way the matters of Commercial les shows an increase. The Court would have to have the benefit comparison of the whole period to determine whether there has en any change in the basis of returns, up or down.

These reports are taken from the actual operating reports of the mpany compiled by their Secretary and Treasurer in accordance th the classification of accounts prescribed by the Interstate Comerce Commission and various Public Utility Commissions, in ac-

cordance with the same basis used in the hearing before the Master exactly comparable to those. I don't think there was any question as to the accuracy of the accounts before the Master. There were questions as to our interpretation or what they indicated and questions as to whether certain amounts which were included should have been included in a consideration of the rates. Down to the line "Total Operation & Maintenance" is an exact copy of the figures from the books of the Company. To total operation and maintenance I have added the figures based on the now present valuation after depreciation, a return exactly as we did in the same or similar exhibits before the Master.

The depreciated rate of 3.35 is the depreciation rate for which we asked before the Master. The distinction between our depreciated rate was that ours was based upon a sinking fund and therefore we allowed no deduction for accrued depreciation from the valuation while he asked for a straight line depreciation. I set this up not in accordance with the Master's idea, but to make it exactly comparable to the same or similar exhibits which we submitted to him. This report is prepared on the basis of continuing my own evidence. On the third page I have taken the sales actually made in the
323 year ending December 31, 1920, as they appear on Page 1, in the second column and I have set beside that the estimate which the Company has prepared in its reports, and which I have checked as to the revenues for the coming year under a continuation of the rates now in effect. Under the "Operating Expenses" on Page 4, I have again taken the operating expenses that were actually incurred during the year of 1920 and I have compared those with an estimate for the year ending 1921; the principal item of difference being the difference of our fuel oil in the first item due to the expiration of our present contract, and I have assumed that it will be renewed on the basis of the best quotation which we can get. This accounts for the major portion in the increase in the operation expenses. Our present fuel contract being on the basis of 90 cents per barrel of oil, while the best quotation at present is $2.00 per barrel with a switching charge of $8.76. The best quotation that could be secured for delivery in our tank as our oil is now handled would be on the basis of about $2.40 a barrel. The difference of 4 cents is just the difference between the two bids; we cannot get oil now for less than $2.00. Our year's requirement would be about 60,000 or 65,000 barrels. We use heavy Mexican Crude.

In answer to questions by counsel for plaintiff the witness continued:

I don't know how many concerns there are in position to serve us with oil in Galveston. The concern which can best serve us is the one from whom the Company is now buying at 90 cents, but they are the people who made the $2.40 bid, while the best bid I have had was a $2.00 bid from another company from whom we must take delivery in tank cars and have the oil switched and then pumped into our own tank, whereas the present company makes their delivery into our own tank.

Resuming his testimony in answer to questions by the Court, the witness continued:

The switching charge is $8.76 (per car) which figures 3.7 cents per barrel. At the bottom of this sheet I have deducted for comparative purposes the reduction in revenue that would follow the enforcement of the 1919 ordinances in amount $58,300.61,
324 and indicated the result on a basis of a year's operation under the 1919 ordinances and the increased fuel rates which we can reasonably expect. (Our 90-cent contract expires April 1st.) The last page is just a set-up of the gross revenue less the 1919 ordinance reduction, compared with the operating expenses with fuel at the present cost. In other words, it is just a recap. of the total of the previous sheet. For the Courts information, and the question of prices, there are so many things that enter into the items in a Public Utility property, that I have prepared details showing some of the main items; however I have complete reports of the Inventory in all its items. In all of its details, so it would be exactly comparable item by item, some of which are down and some of which are up with the Inventory presented to the Master. I did not add into this Inventory materials that has been purchased since the last inventory, which now amounts to about $35,000, but to this report we add the other items so that the Inventory has a total that can be compared. I thought that would be better than endeavoring to present each and every item. This valuation when compared with the one submitted to the Master indicates an increase of about 17% in the present cost of reproduction of all of the property. Some of the principal items I have listed separately, such as brick, lime, sand, cross-arms, poles and so forth, and if you want those items put into this record I can do that very rapidly. By "listing separately," I mean that instead of sitting down and going through that total valuation, you might want to get to one thing, I have all of the largest items which make up the bulk of the valuation. For instance, I am giving you here just the best price of the material, while the unit prices applied in that valuation would be the unit price with labor added and you would not be able to tell from that how much was attributable to each material cost and how much was attributable to labor cost. Common brick in the 1920 valuation was $18.00, it is now $33.00. Lehigh cement per barrel was $3.20, and it is now $4.50; that price includes sacks for which the credit in 1920 was 60 cents and is now $1.00. Lime per barrel was $1.70 and is now $3.00. Sand per cubic yard
was $3.10 and is now $2.35. (I am making my comparison
325 between January 1, 1920 and January 1, 1921.) Western cedar poles, 35 foot, 7 inch, which makes up the bulk of our distribution system, were $13.17 and are now $17.60. A standard cross-arms which is 3¼ by 4¼, 5 feet long, were 79 cents, now 92 cents. Westinghouse No. 253707 Porcelain Insulators were $9.90, now $19.96 per 100. No. 6 Triple Grade Weather-proof Wire was 31¾ cents per pound and is now 24 1/6 cents. Five Ampere Westinghouse type O. A. Meter was $7.90 and is now $8.93. Firebrick was $75.00 a thousand and now are $100.00 a thousand. Five kilo-

watt 2200/-10 transformers, which make up the large number of transformers, was $74.39, now is $91.14. Switchboard Wattmeters—the first group of items go to building and construction, and the second group, which I just finished go to the development of the system—Switchboard Wattmeters used on the panels in the plant, Westinghouse #163093 was $74.52, now $90.05. Westinghouse Watthourmeters #276532 was $36.72, now is $44.37. The common labor rates which were effective, or the labor rates which were effective, at the time of the January 1, 1920, Inventory compared with the labor rates effective January 1, 1921, are as follows: Brickmasons were $8.00, now $11.00; Concrete finishers were $8.00 in both cases; Painters were $7.20, now $8.00; Plasterers were $8.00, now $11.00; Steel Workers $8.00 in each case; Carpenters were $6.00 now $8.00; Steel setters $8.00 in both cases; and common labor $4.00 in both cases. One switchboard panel Westinghouse $268729 was $288.00 now is $350.40. I believe that would give the principal items in round numbers to show what the tendency was. I cannot agree with the statement that prices continued to go up until the summer, and since that time have commenced to go down or have remained stationary. Copper wire is the only thing to which that applies, and that has been down for some time. The other electrical equipment has not receded at all, there has been no price reduction. The effective dates of the increases in electrical equipment has extended all the way from February of last year up to the latter part of last month. Copper, I said, was the one exception to the rule. Common labor does
326 not enter into electrical equipment; common labor has remained stationary on this building. Labor has not decreased any, and as is usual with all labor unions those increases come but once a year which is at the expiration of their contracts, which is in most cases May. On the average commodity it is true that prices continued to rise until they reached the crest some time in the summer, or fall, and since the fall there has been no advance. The Bureau of Labor statistice indicate all prices have gone down since about August.

There is such a wide distinction in the question of prices in the utility equipment field and the general average of prices which the Bureau of Labor Statistics is based on, and what the newspaper comments are based on, that you cannot testify about equipment, utility equipment prices, without apparently contributing well known facts and still tell the truth. This is the distinction, for instance: the prices that have dropped in the newspaper comments have been those prices which went up 200, 300, 400 and 500%. Utility prices were very slow to go up. Utility rates were fixed and until there was some relief there was not a producing power and they could not force those prices up and down. Now, the reduction that is taking place in the public mind from the newspaper comments, is due to the drop below war prices, and on those things that went up to 200 and 300%. The labor which is employed outside of utility plants is going down, but labor employed in such plants is going up because they did not and could not obtain their increases, the utilities did

not have the revenue. Instead of street car conductors, motormen, electric line men and boiler room men getting increases of 150 and 200%, they were not granted, but within the past three months there has been many increases in utility labor which came after increased rates were granted, and could not come before. They did not use that as a lever to force an increase in rates—nobody spends money with the hope that some time in the future they will get a full amount of money back. The reason that causes utility labor to increase is that we hadat the beginning of the period old men that had been with us for years, some of these we could keep and some we did not keep, and some are still with us; others left us and we had to take in green help and take the poorest kind of help and we
327 had to do that because we couldn't pay competitive rates. We have had to and will as our agreements expire pay increased rates. It is true that we use the same kind of labor in building an electrical plant that we use in building other kinds of plant. That applies to the building structures, that is just a small part of the total. I had in mind the equipment which goes into the plant which constitutes the major portion of the investment. I am talking about employees in the plant which manufactures these articles. I was not talking about the employees on the lines of this company; they are included and are affected the same way. But when we go into the market for the building itself we will be affected by the conditions there. I do not think that if the public will continue to increase the rates to the utilities that the manufacturers will continue to increase the charges to the utilities. It will be stopped by the refusal of anybody to build utility plants because they cannot earn on the present cost. It is my judgment that the prices will continue to go up in public utility equipment for some time, until they reach the average to which other prices have gone, or to which other prices finally recede to—put it that way. The statement has been made in regard to street railways that the average of prices reached some time in the summer of 1920, about 110% above the pre-war prices. That would not apply to electric companies for this reason: that a very large proportion of the street railway investment is in steel rails, and there is an infinitesimal amount of steel in electrical equipment in question. In this case I and the other engineer agreed on some value of five hundred and odd thousand dollars at present cost, a difference of about 36%; that was for ten years ending January 1, 1917, I believe. The prices which now obtain in the electrical business are probably at this minute about 60% higher than those obtaining in 1914. I say that electrical prices will continue to go up until they meet the other prices. In other words, during the wide fluctuations some things moved slowly, others very rapidly. Those things that go highest go back first and some go back fartherest, and some of the things moving very slowly
328 did not get their upward movement that they have to have eventually until after the downward trend started on the other things. Sooner or later that must be adjusted on the basis of the purchasing power of the dollar.

There is $150,000 here in buildings and structures, and in plant

equipment $420,000, and in distribution system $338,000. The cos
of construction has advanced since 1920 so that it is higher now
than before 1920. I do not believe that it will continue to advance
because a very large proportion of this is in skilled labor in which
I do not expect any increase. I am rather inclined to the belief that
the cost of building structures will decrease somewhat. As to what
extent it will decrease is entirely dependent on the business activities.
In other words, if the country has activity in building the labor
unions will be able to extend their demands for increases, and if
there comes a slump they will have to recede; that is something
based on activity. In the materials that go into the structures I do
not expect a decrease. These materials are very largely a question
of freight. For instance, the price of cement and brick and lumber
and that sort of things is in many cases higher because of the
freight, and we cannot expect any reduction in that; and with the
deferred building activity that we know exists if the labor rates do
come down at all there will be an active demand for building ma-
terials, so that the reduction, or possible reduction, I believe ap-
plicable only to about 50% of the finished price, that being the price
at the place of manufacture—that portion of it we can expect to be
reduced.

I did not agree that the prices of 1920 were 110% above the prices
before the war. In explanation of that statement in the Master's
Report, I would say that my memory of the way that came about
was in regard to some testimony in regard to the Pittsburgh Railway
case, and we did, at least I did, so far as the railway was concerned,
but the reservation was not made. The thing that is comparable
with us is the steel in street railways and the copper wire in our
distribution lines, and in this statement I have change- that—I think
copper prices have dropped from, as I remember, about 20¢
329 or probably more than that; but it is on its way up again.
I cannot say exactly what proportion of the plant cost is in
the copper; in the copper and the labor of str-nging it, there is shown
$79,000 on page 52. Taking the value we have agreed on in
January 1920, for the fixing of a rate at this time—what I have in
mind is an ordinance passed as of that date, of course, that value
was right for that time, but it should be increased for any valuation
now at least 15%. I think the plant value now would be worth more
by 15% than that $700,000 which was then figured, on the basis
of the purchasing power of our money and the things we have to
do with it; that is, the purchasing power has decreased and the
things we have to buy have gone up, that is all.

There was shown, if I remember, approximately $35,000 worth of
Materials and Supplies on hand. I don't know that it is shown and
I haven't the figures here by which I could show the division of that
between the retail sales department and the materials and supplies
conducting the plant. But that can be very easily obtained, that
was a detailed inventory of it. I don't think it is in those books. I
think it was put in as one item, as a miscellaneous assortment. There
is a profit on sales of all appliances, none are sold at or below cost.
The New Business department is credited with that profit. The New

Business department has much to do. All of its operating expenses in the way of salaries, stationery and so forth, for all of the work which they do, the $14,000 is the amount by which their expenses exceeded the net profits on the appliances and equipment sold. The New Business Department is the medium between the Company and the public. They handle complaints; they adjust bills; they tell a man what equipment he ought to have if he decides to put in electrical equipment. They will lay out his plans and tell him what it will cost to operate, and induce him to use electricity—electric equipment in the place of steam, for instance. Then there comes a later step by which he asks for bids, and then they bid for the equipment on a competitive bid. But the Company is interested in getting the load on their lines, whether they secure the equipment or whether the party decides to buy elsewhere. All of that expense is
330 charged to them, and the only offset is the profit on the New Business sales of equipment. The Maintenance of that character of department by electric selling companies is so general that the public utility classification of accounts in every state provides for the keeping of that expense and setting it out. I don't know whether the Company at Houston has such a department, but it would be unusual not to find it. It is always maintained where the concern has a monopoly. It is their public relation; but the net revenue of a company is dependent on utilizing their equipment as many hours a day as possible, and if the department had no other function it would be to fill up the valleys on the cheap loads in the plant to get a full load on the plant, to have somebody who would use the juice on either a printing press or a dough-making machine from midnight until morning when nobody else wants it. If a company had a monopoly, just a business of selling current, they would need that department if they were going to keep up their business and keep it going and use their load and add to it. The duties in this department could not be performed by anybody who had an office job. These men are at the call of our customers and at their convenience rather than at our own. I have never appraised a plant that did not have this character of department. When you get into a situation like Denver, Toledo or Chicago, or some place of that kind, the sales run to a volume that allows a profit to offset operating expenses. Usually the smaller plants have a deficit on their New Business Department. In our classification of accounts they have made us set it up in this way; it is not a loss. It is just because in the plant we turn out some specific item which we can tag and credit them with. In this the item is additional business, good feeling, adjustment of complaints, and things of that kind that you cannot very well give them credit for. I don't know why it is not carried as a part of the Company's Operating Expenses and the receipts of that department carried into the returns. There is a similar thing in the matter of gas accounting, where they have coke to sell, in the Coke De-
331 partment. The coke business is deducted from the actual operating expenses from which you produce coke, but in the operating account there is only the net difference between the two. In the very small towns I suppose there are plants that have a New

Business Department and do not sell appliances. I never have had one outside of some towns where I inventoried the plants, in Missouri and Oklahoma, for a holding company. Where plants make money out of this business, more than enough for the cost of operating, the returns are credited in the Operating Expenses. In other words, the item where it is included is under the head of "Customers' Operation." They are credited in that and in some cases go a long ways towards off-setting bookkeeping and meter reading and such things as that. If that department is operated at a profit it has to be credited in under that classification, to exactly the same point the deficit is charged now, and in some cases runs to a very considerable amount. In the case of this plant, I think it is necessary for them to maintain that department. If it was not continued the loss would not be so easily tagged—you would have your loss but you could not classify it into one account. It might be because of the other companies, and because of the thing that is a constant menace—the isolated plant. Every superintendent has the idea of building his own little plant, and unless you have something to show to the officers of the company, showing him that he cannot do that successfully, you lose his business. Without doubt this New Business Department is maintained in order to compete with the other company and also in order to get people to do business with the public utility generally. If both these concerns in Galveston got into a war between themselves, and put on very heavy expenses for new business to pry the other out of business, I don't believe that would be a legitimate expense for the public to bear. Yet the Wisconsin Commission held that it was and made the public carry it. They had three plants in one town up there and the City bought one of the plants and the Commission made them buy both of the others and bear the expense.) I don't
332 believe it would be a proper operating charge. That is not what is included in this $14,000. The record shows that this New Business Department has not only increased the number of customers, but the important thing is to increase the consumption of the individual customer. If you can get a customer three kilowatt hours, then if you can get that customer, without any additional investment to use another three kilowatt hours, that is good business. I think this $14,000 which was incurred as operating expense was entered profitably. If there was any way in which you could analyze the increased business they did get, or the value of the good relations which they maintain with the public, we could set it up, but it cannot be done. I would not be able to state whether this loss will continue indefinitely. In a period of business activity that loss would be very shortly offset—if two or three manufacturing plants should establish themselves in Galveston and decide to buy motor equipment for their plants. It is dependent on the volume of the sales; the amount of expenses won't change very much. If they have a period of business activity the net difference will be reduced, and if they have a business slump it will increase. The only credit to that department is the proceeds of sales; they do not give that department credit for increase in business from that department. So for the purpose of determining its value, we have to look not mainly to the sales

but to whether or not the business and the number of kilowatt hours has increased. It is reasonable to suppose that the business is going to increase this year so far as the commercial lighting is concerned. They have gotten additional lighting which will be effective attributes in the summer. On the other hand, they have had a fire at Pier 35, I believe, which used 275 horsepower; that will be rebuilt however. I think the total business will be increased, but the shipping is pretty dull right now, and a large part of the company's power load is at the dry docks and various plants on the wharves, and the amount of shipping affects their load. It is true that until 1920 there was very little shipping going out of Galveston compared to what
333 there was before 1917. If the shipping business increases the business of this Company will increase. I know in a general way that the Brush Electric furnishes more power than the Galveston Electric Company. They are both growing in the way of sales, but what the relative growth has been I would not be able to state. The Brush Electric Company would take care of some increase in power business. If the increase came in the way of increased kilowatt sold added to our power business, the question of output is dependent on how your load is distributed. If it all comes at once you cannot take care of it without additional equipment; if you are just filling in the valleys in your load you can take care of it.

At this point plaintiff introduced in evidence Tabulation of Prices with reference to which the witness has testified, marked "Plaintiff's Exhibit No. A4," which is as follows:

Item.	Form vouchers, 1914.	Valuations.	Jan. 1st, 1921.
Common Brick M ...	$12.00	$18.00	(1) $33.00
Cement Lehigh Bbl. .	2.25	3.20	(1) 4.50
Credit for 2 sax	.20	.30	(1) .50
Lime Bbl.	1.30	1.70	(1) 3.00
Sand Cru. Yd.	1.20	2.10	2.35
Poles, West Cedar 35" ft. 7	8.00	14.18	17.60
Cross Arms 31/ c 4¼ x 5' 0"	.....	.79	.98
Porc. Insulator West #253707	.....	9.90	19.96
Copper Wire #6 T. B. W. P.	15.15¾	.31¾	.24 1/6
5 Amp. West Meter O. A.	5.58	7.90	8.93
100 V. 2 W. A. C. ...	.....	....	....
Fire Brick	50.00	75.00	(1) 100.00
Transformers 5 k/w 2200/-10	.....	74.39	91.14

Westinghouse Catalog Prices.

	Jan. 1, 1919.	Jan. 1st, 1920.	Jan. 1st, 1921.
250 V 30 Amp. Enclosed Fuses (c) ..	19.25	20.50	26.25
2,500 V Lighting arresters Ea.	4.59	5.10	5.87
Westgh. #186235 200 AMP Cir. Bkr. ...	87.00	87.00	95.70
Switchboard Wattmeter #163093 ...	62.10	74.52	90.05
" Watthoursmeter #276532	30.60	36.72	44.37
20 H. P. 2,300 V. 2 ph. 1160 R. P. M. Type C. S.	.....	350.00	402.50
Switchboard Panel #268729	322.00	288.00	350.40

(1) Wm. Parr & Co., Strand St., Galveston.

334 On Cross Examination the witness testified as follows:

I have testified about prices of certain commodities that enter into the construction of the plant. They were various and sundry sorts of material for building construction and were obtained locally in Galveston. My man obtained them from Wm. Parr & Co., (Galveston) in regard to brick and in regard to cement, and from Wm. Zempter, a contractor, in regard to the labor rates now paid the union men. In regard to lumber, from the firm of which Col. Moore is a member. Those were the local prices. The equipment prices came from Westinghouse and the General Electric agents which are located here, in Houston. The prices in the first valuation which was presented before the Master were obtained about December, 1919. These prices have secured in the last five days, so far as the valuations of January 1, 1921, are concerned. As to commodities such as brick, lime, and cement they are based on local quotations in Galveston. The electrical equipment prices were obtained from agencies of those companies in Houston. The labor prices were obtained in Galveston, the prices being paid by the contractor, which are in accordance with the union scale. If would be perfectly safe method to take the wholesale quotations as shown by the index figures published by the Bureau of Labor if you could get an index figure for the commodities involved here. Of course their index figures cover 261 commodities at the present time, a great portion of which has nothing to do with our plant. Lumber and building materials would include some of the items I speak of; their classification of building material includes all or a very large portion of the major items in buildings. The index figures as quoted by the Bureau of Labor include freight and the quotations are based on prices at wholesale distribution centers. I don't

know whether they consider Houston and Galveston a wholesale distribution center or not. That is one of the points at which they obtain quotations. I wouldn't think so—there are so many towns they wouldn't be able to get them all. I think the figures I
335 have gathered showing these increases should be more relied on by the court than the index figures in the Bureau of Labor Statistics, unless we could get an index figure applying to the items we are interested in. I don't believe that my figures are influenced by local conditions, that lumber dealers, for instance, with small stocks would quote a higher price than I could buy elsewhere and ship here. I don't see any reason for believing that. The freight rate is usually the only difference that amounts to much in those material quotations. (I have testified that lumber has decreased since last January). I would not say, if the Bureau of Labor Statistics should show that lumber and building materials on January 1, 1921, were lower than they were on January 1, 1929, that that should have preference over the prices I have indicated. It should not because there is practically no lumber in our construction and I do know that lumber has gone down, and of course if the lumber and materials decreased the figures in the Bureau of Labor Statistics would go down with it. But in our construction there is practically no lumber used—as you know, our buildings are of concrete and brick. I did not indicate in the hearing before the Master that the price basis to be considered was founded on the index figures of the Bureau of Labor, because we submitted a detailed valuation of the specific items and our figures were in no way founded on the Bureau of Labor Statistics. These estimates were exact bids on the particular items specified. It was not conceded that the basis of that inventory was in line with the index numbers in the Bureau of Labor Statistics. It is stated that the inventory is only 34% above similar pre-war prices, while it is well known that the Bureau of Labor Statistics were placed 100% higher, on all commodities.

The chief item of expense in connection with the operation of the New Business Department is salaries. I could not give the per cent. off hand. Mr. De Roach who was here could give that to you. I think that department employes five men. The department is not on a paying basis at this particular time. They had a month of November in which they bunched some of their sales and succeeded
336 in having a right neat figure credited, but I am sure the last six months would not show a credit. It would not show anything like the same proportion of loss that was spent in the past fiscal year, for the reason I stated—they bunched some motor sales in the month of February. In answer to the Judge's question I have stated the only way I know how that department will reach the point where it will pay; that is, if they have business activity they will come more nearly to breaking even; if they have a business slump, or if there is a continuation of the slump, they are up against at the present minute for instance, it will probably be higher than it was last year. Those slumps come just at the time when you have to get the business or go under; It is when you have to go out and get business. It is no trouble to get business when

everybody wants your services. The last six months' operation would not show from the tabulation I have submitted, but I have promised and will furnish that statement.

On Redirect Examination by counsel for plaintiff, the witness testified as follows:

The total of my valuation of January 1, 1920, is $769,000.00. The total of my valuation of the physical properties of January 1921, is about $909,825—about 17% above.

On Recross Examination, the witness testified as follows:

The agreement covering the 1920 cost of reproduction was based on prices in effect the latter part of December, 1919. For local materials they were prices f. o. b. Galveston; for electrical equipment and boilers they would be prices f. o. b. the plant, and we would have to figure out and add the freight because the purchase of equipment of that kind we buy directly from the manufacturer with no middleman. The substance of my testimony is that these things would be over all higher in Galveston today than they would be on January 1, 1920, based on the quotations I have gotten within the last five days. Those prices were current in January, 1921, that is what I intended by the agreement.

Witness excused.

337 Defendants introduced in evidence figures and tables issued by the United States Department of Labor with index numbers of wholesale prices of groups of commodities, the first sheet covering the period of November and December, 1920, and the remaining sheets covering the period from 1913 down to and including 1920, same being as follows:

(Sheet 1.)

U. S. Department of Labor,

Bureau of Labor Statistics,

Washington.

Below are shown the index numbers of wholesale prices in the United States, by groups of commodities, as computed by the Bureau of Labor Statistics for the months named. The figures for the last named month are preliminary and subject to revision, while those for the previous months are final. The base used in computing these index numbers is the average for the calendar year 1913.

Index Numbers of Wholesale Prices by Groups of Commodities.

(1913 Equals 100.)

Group.	1920.	
	November.	December.
Farm Products	165	144
Food, etc.	195	172
Clothes and Clothing	234	220
Fuel and lighting	258	236
Metals and metal products	170	157
Lumber and building material	274	266
Chemicals and drugs	270	188
Housefurnishing goods	369	346
Miscellaneous	220	205
All commodities	207	189

(Sheet 2.)

U. S. Department of Labor,

Bureau of Labor Statistics,

Washington.

Index Numbers of Wholesale Prices by Groups of Commodities and by Months, 1913 to 1920.

(1913 Equals 100.)

Year and month.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Lumber and building materials.	Chemicals and drugs.	House furnishing goods.	Miscellaneous.	All commodities.
1913:										
Av. for yr.	100	100	100	100	100	100	100	100	100	100
January	97	99	100	103	107	100	101	100	100	100
February	97	98	101	103	105	101	101	100	100	100
March	99	97	100	102	102	102	101	100	98	98
April	97	96	100	98	102	101	101	100	98	98
May	98	95	100	98	103	101	100	100	98	98
June	99	99	99	100	100	101	100	100	100	100
July	101	102	100	99	98	101	99	100	101	100
August	101	104	100	100	99	99	100	100	102	101
September	104	105	100	100	99	99	99	100	102	102
October	103	102	100	100	99	98	100	100	100	101
November	101	105	100	99	96	98	100	100	100	101
December	101	101	99	99	92	98	100	100	100	99
1914:										
Av. for yr.	103	103	98	96	87	97	101	99	99	100
January	101	102	98	99	92	98	100	99	99	100
February	102	100	99	99	92	99	100	99	100	99
March	103	97	99	99	92	99	100	99	101	99
April	101	95	99	98	91	99	99	100	101	98
May	104	96	99	95	87	98	100	99	101	98
June	104	100	99	94	86	98	100	99	99	99
July	104	104	99	95	85	97	99	99	97	100

August	109	112	99	94	85	97	99	99	98	103
September	108	116	98	95	86	95	104	99	99	104
October	103	107	97	93	83	96	105	99	99	104
November	101	106	96	93	81	95	105	99	98	99
December	99	105	96	94	83	94	104	99	98	98
1915:										
Av. for yr.	105	104	100	93	97	94	114	99	99	101
January	102	106	96	93	83	94	103	99	100	99
February	105	108	97	92	87	95	102	99	100	101
March	105	104	97	92	89	94	102	99	99	99
April	107	105	99	89	91	94	102	99	99	100
May	109	105	99	89	96	94	102	99	98	101
June	105	102	99	89	100	93	104	99	97	99
July	108	104	99	102	102	93	108	99	98	101
August	107	102	99	92	100	92	112	99	97	100
September	103	100	100	94	100	92	116	99	97	99
October	105	103	103	99	100	93	124	99	99	101
November	102	107	105	98	104	94	142	99	100	103
December	103	111	107	100	114	97	153	99	103	106

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(Sheet 3.)

1916:										
Av. for yr.	122	126	128	119	148	101	159	115	120	124
January	108	113	110	105	126	99	150	105	107	110
February	109	114	113	106	132	100	170	105	106	112
March	111	115	117	108	141	101	175	106	109	114
April	114	117	119	108	147	101	172	108	110	117
May	116	119	122	107	151	102	166	112	113	118
June	116	119	124	108	149	101	166	112	119	119
July	118	121	126	108	145	99	156	121	120	119
August	126	128	128	110	145	100	146	122	122	123
September	131	133	131	115	148	100	147	122	125	128
October	136	140	138	133	151	101	150	124	132	134
November	146	150	146	155	160	104	155	123	135	144
December	142	145	155	170	185	106	159	124	137	146

Index Numbers of Wholesale Prices.—Continued.

Year and month.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Lumber and building materials.	Chemicals and drugs.	House furnishing goods.	Miscellaneous.	All commodities.
1917:										
Av. for yr.	189	176	181	175	208	124	198	144	155	176
January	148	150	161	176	183	106	159	132	138	151
February	151	159	162	185	190	108	160	132	141	156
March	163	160	164	188	199	110	165	132	143	161
April	181	182	169	184	208	114	170	139	149	172
May	197	190	173	194	217	117	179	139	150	182
June	197	187	179	201	239	127	180	144	152	185
July	199	181	187	192	257	132	198	152	153	186
August	205	180	193	165	249	133	209	152	156	185
September	204	178	193	160	226	134	223	152	155	183
October	208	183	193	146	182	134	252	152	163	181
November	212	184	198	155	174	134	240	155	166	183
December	205	185	202	158	174	135	238	155	170	182
1918:										
Av. for yr.	220	189	239	163	181	151	221	196	193	196
January	207	187	211	157	174	136	232	161	178	185
February	208	186	216	157	176	138	232	161	181	186
March	212	177	223	158	176	144	232	165	184	187
April	217	178	232	172	177	146	229	172	191	190
May	214	177	237	160	178	148	223	173	194	190
June	217	179	245	159	178	150	219	198	196	193
July	224	184	249	166	184	154	216	199	190	198
August	230	191	252	166	185	157	222	221	191	202
September	237	199	252	167	184	159	220	226	194	207
October	224	201	257	167	187	158	218	226	196	204
November	221	206	256	171	188	164	215	226	203	206
December	222	210	250	171	184	164	195	227	204	206

	January.	Feb
Appliance Sales	6,220.59	4,6
Cost of Appliances sold	4,463.05	3,4
Appliances Supplies & Expenses	43.33	
Appliance Labor	.....	...
Total Cost Appliances Sold	4,506.38	3,4
Gross Profit on Appliances	1,714.21	1,1
Appliances Returned	164.38	6
Uncollectible Bills	50.00	5
Total Deductions	214.38	11
Net Profit on Appliance Sales	1,499.83	1,01
Installation Supplies & Expens	319.75	22
Installation Labor	60.00	3
Total Installation Cost	379.75	25
Charged Customers	125.02	3
Profit or Loss on Installations	254.73*	22
Net Profit or Loss on Appliances & Installations	1,245.10	79
Clerical Salaries	350.30	36
Representative Salaries	873.99	67
Supplies & Expenses	67.13	14
Sales Advertising	223.80	14
General Advertising	174.04*	76
Total Above five items	1,371.18	1,40
Total New Business Expense	126.08	60
Charged from Prepaid Expense	.....	20
Total Charged to Operation	126.08	80

NOTE.—The above statement shows that for the year 1920 the expense of shown by the Statement filed in the Court, Jan. 21st, 1921.

Red Figures in Line.—Gross Profit on Appliances, indicate a Loss; Net New Business, indicate a Profit; Total Charged to Operation, inidicate a Pro

[*Red in copy.]

Analysis of New Business Operation for the Year 1920.

	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
8	4,613.17	2,652.65	5,970.77	10,787.31	11,108.46	10,942.86	11,149.31	6,161.49	16,006.19	11,394.94	12,050.23
5	3,465.29	2,998.99	6,801.05	8,926.77	10,065.51	8,279.29	8,851.80	4,523.09	11,339.09	8,753.91	8,602.18
3	19.27	4.75	25.65	52.95	156.35	286.35	239.36	46.97	223.51	14.85	89.61
.	.....	.....	.....	.....	15.07	42.30	73.11	57.55	70.71	104.42	128.40
8	3,484.56	3,003.74	6,826.70	8,979.72	10,236.93	8,607.94	9,164.27	4,627.61	11,633.31	8,873.18	8,820.19
1	1,128.61	351.09*	855.93*	1,807.59	871.53	2,334.92	1,985.04	1,533.88	4,372.88	2,521.76	3,230.04
8	64.68	98.57	347.49	150.18	175.59	185.47	173.37	258.28	112.99	184.68	174.89
0	50.00	40.00	40.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
8	114.68	138.57	387.49	200.18	225.59	235.47	223.37	308.28	162.99	234.68	224.89
3	1,013.93	489.66*	1,243.42*	1,607.41	645.94	2,099.45	1,761.67	1,225.60	4,209.89	2,287.08	3,005.15
5	227.70	251.65	381.86	244.63	123.82	128.64	87.63	11.70	54.64	22.45	176.79
0	30.00	25.00	70.00	75.00	75.00	70.66	70.07	109.02	73.70	66.75	.....
5	257.70	279.65	451.86	319.63	198.82	199.30	157.70	120.72	128.34	89.20	176.79
2	37.20	83.80	141.05	122.81	69.75	28.80	78.32	138.70	229.21	174.07	182.98
3*	220.50*	195.85*	310.81*	196.82*	129.07*	170.50*	79.38*	17.98	100.87	84.87	6.19
0	793.43	685.51*	1,554.23*	1,410.59	516.87	1,928.95	1,682.29	1,243.58	4,310.76	2,371.95	3,011.34
0	363.52	275.00	374.50	534.56	487.84	830.61	374.70	310.48	356.60	948.72	354.60
9	672.02	513.38	663.19	1,148.43	1,028.47	887.36	831.62	612.81	1,327.92	851.77	1,036.06
3	145.70	28.35	52.22	79.48	97.94	46.51	147.77	30.88	34.77	58.08	58.69
0	144.46	420.19	227.37	516.11	623.09	658.58	335.74	447.61	659.51	550.34	634.14
4*	76.93	56.43	183.83	49.72	87.84	58.14	330.91	206.02	33.18	432.42	99.36
8	1,402.63	1,293.35	1,501.11	2,328.30	2,325.18	2,481.20	2,020.74	1,607.80	2,411.98	2,841.33	2,182.85
8	609.20	1,978.86	3,055.34	917.71	1,808.31	552.25	338.45	364.22	1,898.78*	469.38	828.49*
.	200.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	809.20	1,978.86	3,055.34	917.71	1,808.31	552.25	338.45	364.22	1,898.78*	469.38	828.49*

expense of this department was $7,692.53 more than the revenue derived from it, all of which revenue is included in the amount of Gross Earnings of

oss; Net Profit on Appliance Sales; indicate a Loss; Profit or Loss on Installations, indicate a Loss; Net Profit or Loss on Appliances & Installations, i
cate a Profit.

Analysis of New Business Operation for the Year 1920.

arch.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total 12 months.
52.65	5,970.77	10,787.31	11,108.46	10,942.86	11,149.31	6,161.49	16,006.19	11,394.94	12,050.23	108,903.1[illegible]
08.99	6,801.05	8,926.77	10,065.51	8,279.29	8,851.80	4,523.09	11,339.09	8,753.91	8,602.18	86,917.01
4.75	25.65	52.95	156.35	286.35	239.36	46.97	223.51	14.85	89.61	1,201.14
.....	.....	.....	15.07	42.30	73.11	57.55	70.71	104.42	128.40	491.56
03.74	6,826.70	8,979.72	10,236.93	8,607.94	9,164.27	4,627.61	11,633.31	8,873.18	8,820.19	88,609.71
51.09*	855.93*	1,807.59	871.53	2,334.92	1,985.04	1,533.88	4,372.88	2,521.76	3,230.04	20,293.44
08.57	347.49	150.18	175.59	185.47	173.37	258.28	112.99	184.68	174.89	2,090.57
40.00	40.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	580.00
88.57	387.49	200.18	225.59	235.47	223.37	308.28	162.99	234.68	224.89	2,670.57
39.66*	1,243.42*	1,607.41	645.94	2,099.45	1,761.67	1,225.60	4,209.89	2,287.08	3,005.15	17,622.87
54.65	381.86	244.63	123.82	128.64	87.63	11.70	54.64	22.45	176.79	2,034.26
25.00	70.00	75.00	75.00	70.66	70.07	109.02	73.70	66.75	.....	725.20
79.65	451.86	319.63	198.82	199.30	157.70	120.72	128.34	89.20	176.79	2,750.46
83.80	141.05	122.81	69.75	28.80	78.32	138.70	229.21	174.07	182.98	1,411.71
95.85*	310.81*	196.82*	129.07*	170.50*	79.38*	17.98	100.87	84.87	6.19	1,347.75*
85.51*	1,554.23*	1,410.59	516.87	1,928.95	1,682.29	1,243.58	4,310.76	2,371.95	3,011.34	16,275.12
75.00	374.50	534.56	487.84	830.61	374.70	310.48	356.60	948.72	354.60	5,591.43
13.38	663.19	1,148.43	1,028.47	887.36	831.62	612.81	1,327.92	851.77	1,036.06	10,447.62
28.35	52.22	79.48	97.94	46.51	147.77	30.88	34.77	58.08	58.69	847.52
20.19	227.37	516.11	623.09	658.58	335.74	447.61	659.51	550.34	634.14	5,540.94
56.43	183.83	49.72	87.84	58.14	330.91	206.02	33.18	432.42	99.36	1,440.74
93.35	1,501.11	2,328.30	2,325.18	2,481.20	2,020.74	1,607.80	2,411.98	2,841.33	2,182.85	23,767.65
78.86	3,055.34	917.71	1,808.31	552.25	338.45	364.22	1,898.78*	469.38	828.49*	7,492.53
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200.00
78.86	3,055.34	917.71	1,808.31	552.25	338.45	364.22	1,898.78*	469.38	828.49*	7,692.53

[illegible]rtment was $7,692.53 more than the revenue derived from it, all of which revenue is included in the amount of Gross Earnings of the Company

Appliance Sales; indicate a Loss; Profit or Loss on Installations, indicate a Loss; Net Profit or Loss on Appliances & Installations, a Loss; Total

1919:

Av. for yr.....	234	210	261	173	161	192	179	236	217	212
January	222	207	234	170	172	161	191	218	212	203
February	218	196	223	169	168	163	185	218	208	197
March	228	203	216	168	162	165	183	218	217	201
April	235	211	217	167	152	162	178	217	216	203
May	240	214	228	167	152	164	179	217	213	207
June	231	204	258	170	154	157	174	233	212	207
July	246	216	282	171	158	186	171	245	221	218
August	243	227	304	175	165	208	172	259	225	226
September	226	211	306	181	160	227	173	262	217	220
October	230	211	313	181	161	231	174	264	220	223
November	240	219	325	179	164	236	176	299	220	230
December	244	234	335	181	169	253	179	303	220	238

1920:

Av. for yr.....	...	...	...	...	...	...	...	...	...	...
January	246	253	350	184	177	268	189	323	227	248
February	237	244	356	187	189	300	197	329	227	259
March	239	246	356	192	192	325	205	329	230	253
April	246	270	353	213	195	341	212	331	238	265
May	244	287	347	235	193	341	215	339	246	272
June	243	279	335	246	190	337	218	362	247	269
July	236	268	317	252	191	333	217	362	243	262
August	222	235	299	268	193	328	216	363	240	250
September	210	223	278	284	192	318	222	371	239	242
October	182	204	257	282	184	313	216	371	229	225
November	165	195	234	258	170	274	207	369	220	207
December	144	172	220	236	157	266	188	346	205	189

341 Plaintiff introduced in evidence, prepared and furnished at the request of the Court, the following analysis of New Business Operations of Brush Electric Company for the year 1920:

(Here follows table analysis of new business operation for the year 1920, marked page 342.)

343 Plaintiff introduced in evidence the following affidavit of W. R. Phipps and exhibit attached thereto:

"The attached statement marked Exhibit AA, shows the actual cost of additions to plaintiff's property not included in any previous inventory or valuation, the whole of which amounting to $40,873.00 is properly chargeable and has been now charged (except the item of $1,027.64 for automatic switch board panels which has not yet been charged but will be) to capital account, and in order to bring down to January 1st, 1921, the value of plaintiff's property upon which it is entitled to earn a fair return and depreciation annuity said $40,873.00 should be added to the previous valuations and to the value found by the Master, as no part of said $40,873.00 has ever been taken into consideration in any way in arriving at the value of plaintiff's property in this case.

"The $9,998.83 of non-operating income set up in the defendant's analysis of earnings and expenses of Brush Electric Company for the period of twelve months ending December 31st, 1920, filed within the last few days, is not shown in the statement submitted by Mr. Hamilton because it is not derived from any operations and is not operating income, but consists of interest on remittances made by the plaintiff to Henry L. Doherty & Company of New York, operators of the Brush Electric Company, during the years 1919 and 1920, $9,814.27, for which amount said Henry L. Doherty & Company authorized the Brush Electric Company to set up a debit against said Henry L. Doherty & Company in its books, $180.00 for rent of transformers rented by plaintiff to the Houston Ice and Brewing Company, which Company has its own electric plant, and $4.56 interest on war savings stamps.

(Sgd.) W. R. PHIPPS,
General Manager Brush Electric Company.

Subscribed and sworn to before me, the undersigned authority by said W. R. Phipps ,this 4th day of February, 1921.

(Sgd.) MARGARET M. DONALDSON,
Notary Public in and for the County of Galveston, State of Texas.

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EXHIBIT AA.

Brush Electric Company.

Construction Expenditures, Distribution System, 1920.

Line Extension:	July.	Aug.	Sept.	October.	November.	December.	Total.
Wire	208.63	288.59	211.32	126.47	125.85	528.65	1,489.51
Poles	10.00	25.00	15.00	44.00	.....	102.00	196.00
Miscl. Ov. Hed. Mtf.	45.50	91.66	158.32	13.97	23.56	183.55	516.66
Miscl. Expend.	63.25	20.00	31.58	4.96	10.00	30.00	159.78
Labor	368.36	100.00	215.75	42.20	20.00	423.36	1,349.67
Total Expend.	695.74	525.25	631.97	231.59	359.41	1,267.56	3,711.52

Dry Dock, Distribution System, 1920.

Cable	6,937.88	
Switchboard Panel	322.42	
Cable Installation Miscl.	203.79	
" " Labor	567.02	
Dredging Channel	20,000.00	
Cable Signs	104.32	
Overhead Wire	3,962.85	
Poles	610.00	
Overhead Fixtures Miscl.	504.78	
" Constr. Labor	1,840.52	
Miscl. Garage Expenditures	78.36	
Total	35,131.94	35,131.94

Construction Expenditures, Power Plant, 1920

Three Automatic Switchboard Panels.

Panels, etc.		960.00	
Miscl. Freight & Dr-yage		67.64	
Total		1,027.64	1,027.64

Brick Fire Wall.

Brick and sand	346.65		
Lime & Cement	110.00		
Metal Window	146.00		
Labor	399.25		
			1,001.90
Total	1,001.90		
Total All Expenditures			40,873.00

345 Defendants introduced in evidence the following affidavit of William J. Steinbrink:

William J. Steinbrink, being duly sworn deposes and says: That he is the building inspector of the city of Galveston, Galveston County, Texas, and as such Inspector has under his supervision all building operations within the limits of said city; that prior to his employment by the City of Galveston, as building inspector he was a contractor and builder in said City and had been engaged in such work for a period of about five or six years prior to the year 1920, and that he was familiar with the prices of building materials such as brick, cement, lime, sand and lumber in said city of Galveston, on about the first day of January, 1920, and that he is also familiar with such prices at the present time in said city; that on about the first of January, 1920, the market price of common brick in the city of Galveston was $35.00 per thousand; the price of cement was $4.50 per barrel; the price of lime was $3.20 per barrel; the price of sand was $2.75 per cubic yard.

That at the present time the price of common brick is $33.00 per thousand; cement $4.50 per barrel; lime $3.00 per barrel and sand $2.35 per cubic yard.

That the average price of lumber has declined about 33 1/3 per cent under the prices obtained in January, 1920, and is still on the decline, and it is a fact that the prices of substantially all building material in the city of Galveston *has* declined under the price obtained in January, 1920, and from my conversations with wholesale dealers and builders, and from trade reports I am of the opinion that there will be a further sharp decline in all class- of building material in 1921; steel is declining in price, and while I am unable to express an opinion as to the extent of the probable decline in prices of building material in this city in the future, I believe it will be very substantial in the immediate future.

[SEAL.] (Sgd.) WILLIAM J. STEINBRINK.

346 Subscribed and sworn to before me this the 1st day of February, A. D. 1921.

[SEAL.] (Sgd.) EDITH V. BATES,
Notary Public in and for Galveston County, Texas.

Defendant introduced in evidence the following affidavit of T. G. Sayers, and the annexed sheets referred to therein:

T. G. Sayers, being duly sworn, deposes and says, that he is a public accountant, residing in the city of Houston, Harris County, Texas, and was employed by the City of Galveston to examine the books of the Brush Electric Company, Galveston, Texas, and make a detail of the earnings and expenses of said Brush Electric Company, for the six months ending December 31, 1920, also a detail of earnings, operating expenses, maintenance, etc., for the twelve months ending December 31, 1920, also a detail of earnings, operating expenses, maintenance, etc., for the twelve months ending December 31, 1920; that the following and annexed sheets are true and correct transcripts from the books of the Brush Electric Company, showing its earnings and expenses for the six months' period ending December 31, 1920, also for the period of twelve months ending De-

cember 31, 1920, also detail of gross earnings from operation, non-operating income, operating expenses and maintenance, also showing the expenses of the proceeding brought by Brush Electric Company vs. City of Galveston for an injunction restraining the 1919 ordinance charged to operation on the books of said Company, also detail of "new business expense" for the six months ending December 31, 1920. (Sgd.) T. G. SAYERS.

Subscribed and sworn to before me this the 2nd day of February, A. D. 1921.

[SEAL.] (Sgd.) C. B. SPENCER,
Notary Public in and for Harris County, Texas.

347 (Sheet #1.)

Earnings—Expenses.

Brush Electric Company, Galveston, Texas.

For the Six Months' Period Ending December 31, 1920.

Gross earnings from operation	$191,067.89
Non-operating income	5,751.50
Gross earnings	196,819.39
Total operations & maintenance	130,704.57
Net earnings	66,114.82

Summary of Operation & Maintenance.

Opperating expenses:	
Net production operation	40,996.65
Customers' Department operation	19,882.03
General department operation	31,137.50-A
Unclassified operation	574.35
Total operating expenses	92,590.53
Maintenance:	
Production dept. maintenance	21,722.78
Distribution dept. maintenance	4,233.36
Customers' dept. maintenance	4,376.43
Utility equipment maintenance	3,131.47
Unclassified maintenance	4,650.00
Total maintenance	$38,114.04
Total opperation & maintenance	$130,704.57

NOTE A.—Includes $1,289.98 of rate case expenses, as per schedule attached.

NOTE A.—Includes "New business dept." This dept. showed a profit of $1,002.97 for the period of six months ending December 31, 1920, per analysis attached.

Earnings & Expenses.

Brush Electric Company, Galveston, Texas.

Six Months Ending December 31, 1920.

	July.	August.	September.	October.	November.	December.	Total.
Gross earnings from operation	27,860.88	29,306.91	31,473.40	31,979.06	36,455.14	33,992.50	191,067.89
Non-Operating Income	1,457.75	922.15	442.20	15.00	940.57	1,973.83	5,751.50
Gross Earnings	29,318.63	30,229.06	31,915.60	31,994.06	37,395.71	35,966.33	196,819.39
Total Operation & Maintenance	17,804.37	20,751.01	22,305.27	19,208.65	21,153.63	29,481.64	130,704.57
Net Earnings	11,514.26	9,478.05	9,610.33	12,785.41	16,242.08	6,484.69	66,114.82

Recapitulation of Operating Expenses.

Net Production Operation	5,757.58	6,052.58	6,377.39	7,187.04	7,278.53	8,343.53	40,996.65
Customers Department Operation	3,135.13	3,365.90	3,563.35	3,551.50	3,043.88	3,222.27	19,882.03
General Dept. operation	5,275.74	5,575.14	5,916.40	2,989.79	5,725.79	5,654.64	31,137.50
Unclassified operation	200.00	200.00	150.00	2.00	.....	22.35	574.30
Total Operating Expenses	14,368.45	15,193.62	16,007.14	13,730.33	16,048.20	17,242.79	92,590.53

Recapitulation of Maintenance.

Production dept. maintenance	1,304.21	3,386.93	3,614.19	2,636.11	2,134.61	8,646.73	21,722.78
Distribution dept. maintenance	431.62	334.00	581.15	755.58	1,208.49	922.52	4,233.36
Customers dept. maintenance	457.25	619.13	705.15	705.25	677.90	1,211.75	4,376.43
Utility Equipment maintenance	467.84	442.33	622.64	606.38	309.43	682.85	3,131.47
Unclassified maintenance	775.00	775.00	775.00	775.00	775.00	775.00	4,650.00
Total Maintenance	3,435.92	5,557.39	6,298.13	5,478.32	5,105.43	12,238.85	38,114.04
Total Operation & Maintenance	17,804.37	20,751.01	22,305.27	19,208.65	21,153.63	29,481.64	130,704.57

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Analysis Expenses.

Brush Electric Company, Galveston, Texas.

Six Months Ending December 31, 1920.

Details of New Business Expenses.

	July.	August.	September.	October.	November.	December.	Total.
Clerical Salaries	830.61	374.70	310.48	356.60	948.72	354.60	3,175.71
Representation salaries	887.35	831.62	612.81	1,327.92	851.77	1,036.06	5,547.54
Supplies & Expenses	46.51	147.77	30.88	34.77	58.08	58.69	376.70
Sales Advertising	658.58	335.74	447.61	659.51	550.34	634.14	3,285.92
General advertising	58.14	330.91	206.02	33.18	432.42	99.36	1,160.03
Expenses	2,481.20	2,020.74	1,607.80	2,411.98	2,841.33	2,182.85	13,545.90
Profit	1,928.95	1,682.29	1,243.58	4,310.76	2,371.95	3,011.34	14,548.87
Loss	552.25	338.45	364.22	.....	469.38	.....	1,724.30
Profit	.....	.....	.....	1,898.78	.....	828.49	2,727.27
Net Profit							$1,002.97

350 (Sheet 4.)

Detail of Gross Earnings from Operations, Twelve Months Ending 12/31/20.

Gross Earnings:	
Net municipal sales	$17,418.67
Commercial sales:	
Metered	213,816.70
Flat rate	16,384.19
Minimum bills	5,745.36
	$235,946.25
Less: Allowances	450.04
Net Commercial Sales	$235,496.21
Power sales:	
Metered	109,386.45
Flat rate	128.35
Minimum bill	2,744.50
Less: Allowances	52.40
Net Power Sales	$112,206.90
Total Net Sales	365,121.78
Plus: Forfeited discounts	2,332.49
	$367,454.27
Less: Deduction for bad debts	6,525.00
Gross Earnings from Operation	$360,929.27

(Sheet 5.)

Brush Electric Company, Galveston, Texas.

Earnings—Expenses, Twelve Months Ending 12/31/20.

Gross earnings from operation	$360,929.27
Non-operating income	9,998.83
Gross earnings	$370,928.10
Total operation & maintenance	249,560.13
Net Earnings	$121,367.97

351 (Sheet 6.)

Detail of Maintenance, Twelve Months Ending 12-31-20.

Production Department Maintenance:	
Boiler maintenance material	$15,240.68
Boiler room Aux. maintenance material	1,536.77
Miscellaneous repairs material	100.15
Boiler maintenance labor	3,879.03
Boiler room maintenance labor	756.69
Total Boiler Room Maintenance	$21,513.32
Repairs to Elec. Equip. Matl.	963.65
Repairs to Mech. Equip. Matl.	5,511.88
Misel. repairs material	1,897.99
Repairs to Elect. Equip. labor	873.42
Repairs to Mech. Equip. Labor	2,456.54
Misel. repairs labor	1,882.41
Concersion Maint. Matl.	319.19
" " labor	50.00
Total Production Dept. Maintenance	35,468.40
Distribution Department Maint.:	
Overhead wire	330.03
Poles, cross-arms, etc.	2,850.25
Conduits, etc.	829.79
Lines & Poles Maint. labor	3,863.84
Total Distribution Dept. Maint.	$7,873.91
Customers' Department Maint.:	
Office: Repairs to Equip. Matl.	57.90
Shop:	
Meter repairs & testing Natl.	5,383.94
Repairs to Transformer Matl.	497.86
Mscl. shop repairs Matl.	662.77
Meter repairs & testing labor	1,776.33
Misel. shop repairs labor	7.79
Total Shop Maint.	$8,328.69
Total Customers' Dept. Maint.	$8,386.59

Utility Equipment Maint.:	
Repairs, gasoline cars Matl.	4,959.06
Garage & Equip. Maint. labor	822.70
Total Utility Equip. Maint.	5,781.76
Unclassified Maintenance:	
Fire Expenses	8,004.99

Recapitulation of Maintenance.

Production Dept. Maint	$35,468.40
Distribution Dept. Maint	7,873.91
Customers' Dept. Maint.	8,386.59
Utility equipment Maint.	5,781.76
Unclassified maintenance	8,004.99
	$65,515.65
Total Operating Expenses	184,044.48
Total Maintenance	65,515.65
Total Operation & Maintenance	$249,560.13

352 (Sheet 7.)

Detail of Operation Expenses, Twelve Months Ending 12-31-20.

Production operation:		
Cost other fuel	$58,066.29	
Handling cost other fuel	40.00	
Boiler water	3,235.43	
Miscellaneous supplies	1,932.82	
Boiler room labor	3,642.92	
Total Boiler operation	$66,917.46	
Supplies & expenses	3,114.50	
Generator room labor	8,390.82	
Superintendence	2,040.00	
	80,462.78	
Operation—Labor	988.01	
	81,450.79	
Less credit from other operations	1,927.47	
Net production operation	$79,523.32	

Customers' department operation:

Office:

Stationery & Printing.....	1,717.08
Miscl. office supplies.....	1,938.38
Reading meters labor.....	1,995.11
Customers bookkeeping labor..	3,906.33
Collecting bills labor.....	6,328.31
Application Dept. Labor.....	880.50
Delivering bills labor.....	354.50
Miscl. office labor.....	2,733.90
Telephone expense	1,013.60
Total office operation.....	$20,867.71

Shop:

Commercial Incan. Lamps....	.....
Renews	5.01
Grat. work on customers' premises Supplies & Exp.	1,372.15
Miscl. shop supplies and expenses	4,273.89
Grat. work. on customers' premises labor	4,916.52
Resetting & removing meters labor	1,842.51
Resetting & removing transformers labor	712.95
Distribution supervision labor.	2,260.99
Miscl. shop labor.....	169.90
Resetting & removing meters—suppl. & Exp.	492.14
Resetting & removing transf. suppl. & exp	17.74
Flat rate supplies & expenses..	56.06
Flat rate labor.....	146.20
Total shop operation..	$16,266.06

353 (Sheet 8.)

Total customers' department operation	$37,133.77	
General department operation:		
Executive salaries	7,382.90	
Clerical salaries	3,212.91	
Legal expenses	2,951.40	—Includes E. 4 Rate case.
Traveling expenses	3,143.62	Exp.
General incidental expenses	13,442.69	
Taxes	14,979.77	
Insurance	3,042.39	
Rent	4,668.51	
Injuries and damages	3,600.82	
New business expenses	7,692.53	—E. 4. See analysis.
Stores Dept. supplies & expenses	134.09	July-Dec., 1920.
Stores dept. labor	1,361.21	
Total general department operation	$65,612.84	
Unclassified operation:		
Storm expense	1,574.55	
Valuation exp.	200.00	
Total unclassified operation	1,774.55	

Recapitulation Operating Expenses.

Net production operation	$79,523.32
Customers' Department operation	37,133.77
General Department operation	65,612.84
Unclassified operation	1,774.55
Total operating expenses	184,044.48

354 (Sheet 9.)

Rate Case Expenses—Charged Operations.

Brush Electric Company, Galveston, Texas.

August,	1920	100.00
September	"	100.00
October	"	284.98
November	"	305.00
December	"	500.00
		$1,289.98

Evidence closed.

Filed 27th day of May, 1921.
L. C. MASTERSON,
Clerk,
By G. PREDECKI,
Deputy.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

On this the 27th day of May, 1921, the foregoing Statement of the Evidence in this cause was presented to me for approval by the attorneys for the plaintiff at Houston, in the Southern District of Texas, pursuant to notice served upon the attorneys for the defendant in said cause, and no objections thereto having been made, nor amendments thereto proposed by any party, I find said Statement to be true, complete, and properly prepared, and I approve the same and order it to be filed by the Clerk.

J. C. HUTCHESON, JR.,
Judge United States District Court,
Southern District of Texas.

Filed 27th day of May, 1921.
L. C. MASTERSON,
Clerk,
By G. PREDECKI,
Deputy.

355 Indorsements: No. 38. In Equity. Brush Electric Company vs. City of Galveston, et al. Statement of the Evidence Introduced. Filed May 27, 1921. L. C. Masterson, Clerk, by G. Predecki, Deputy.

356 *Stipulation Re Original Exhibits etc., to be Sent up to Supreme Court.*

Filed May 27, 1921.

In the United States District Court for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY
vs.
CITY OF GALVESTON ET AL.

Stipulation.

It is agreed by and between the parties to this cause that the valuation, inventory and appraisal of the properties of the plaintiff made by F. C. Hamilton, introduced in evidence on the hearing of this cause before the Special Master, marked by the Court Reporter No. 13 and certified as a part of the evidence in this cause as Exhibit No. 13 by said Special Master, the report on the properties and operation of the Brush Electric Company to the City of Galveston, Texas, Part 1, made by Henry Exall Elrod Company, introduced in evidence on the hearing before the Special Master and certified as a part of the evidence in this cause as Exhibit No. 16 by said Special Master, the valuation, inventory and appraisal of the properties of said Brush Electric Company made by Henry Exall Elrod Company (being Part 2 of said report made by said Company to said City of Galveston) introduced in evidence on the hearing of this cause before the Special Master as Exhibit No. 17-A and certified as a part of the evidence in this cause No. 17-A by said Special Master and the valuation of the property of said Brush Electric Company, January 1st, 1921, made by F. C. Hamilton, introduced in evidence on the hearing before the Court as plffs. Exhibit A 3, shall not be copied in the statement of the evidence or the record in this cause, and the District Court is hereby requested to certify the originals thereof to
357 the Supreme Court and to order them sent up to the Supreme Court in addition to the record and in lieu of a copy of a part thereof, and to make such rule or order for the safe-keeping, transporting and return of said originals as to said Court may seem proper.

FRUEAUFF, ROBINSON & SLOAN,
TERRY, CAVIN & MILLS,
Attorneys for Plaintiff.
FRANK S. ANDERSON,
McDONALD & WAYMAN,
4/15/21. *Attorneys for Defendants.*

Approved.
J. C. HUTCHESON, JR.

(Indorsements:) No. 38. Eq. Brush Electric Company v. City of Galveston et al. Stipulation re Original Exhibits etc., to be Sent up to Supreme Court. Filed 27th day of May, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

358 *Order Directing Certain Original Exhibits, etc., Sent up to Supreme Court.*

Filed May 27, 1921.

In the United States District Court, Southern District of Texas, at Galveston, Texas.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON ET AL.

On this the 27th day of May, 1921, on motion of attorneys for plaintiff in this cause, as well as in accordance with the stipulation of all parties herein, it is ordered by the Court that the following original evidence, exhibits, valuations, inventories, appraisals and report shall be sent up to the Supreme Court for its inspection and consideration, in addition to the copy of the record and in lieu of a copy of so much of the record as consists of said original exhibits, valuations, inventories, appraisals and report, to-wit:

The Valuation, Inventory and Appraisal of the properties of the plaintiff made by F. C. Hamilton, introduced in evidence on the hearing of this cause before the Special Master, marked by the court reported No. 13 and certified as a part of the evidence in this cause as Exhibit No. 13 by said Special Master; the Report on the Properties and Operation of the Brush Electric Company to the City of Galveston, Texas, Part I, made by Henry Exall Elrod Company, introduced in evidence on the hearing before the Special Master and certified as a part of the evidence in this cause as Exhibit No. 16 by said Special Master; the Valuation, Inventory and Appraisal of the Properties of said Brush Elestric Company made by Henry Exall Elrod Company (being Part 2 of said Report made by said Company to said City of Galveston) introduced in evidence on the hearing of this cause before the Special Master as Exhibit No. 17-A and certified as a part of the evidence in this cause as Exhibit 17-A by said Special Master; and the Valuation of the Property of said Brush Electric Company, January 1, 1921, made by F. C. Hamilton

359 introduced in evidence on the hearing before the Court as Plffs. Exhibit A3;

And the same shall be returned to the clerk of this Court upon the termination of appellate proceedings in this cause.

J. C. HUTCHESON, JR.,
Judge United States District Court,
Southern District of Texas.

(Indorsements:) No. 38. Eq. Brush Electric Company v. City of Galveston et al. Order directing certain original Exhibits, etc., sent up to Supreme Court. Filed 27th day of May, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

360 *Appeal Bond and Order of Approval Thereon.*

Filed May 6, 1921.

In the United States District Court for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Know all men by these presents:

That we, Brush Electric Company, a corporation, as principal, and George Sealy and H. O. Stein, of the County of Galveston, State of Texas, as sureties, are held and firmly bound unto the City of Galveston, a municipal corporation, H. O. Sappington, as Mayor-President of said City, J. C. Purcell, as Commissioner of Finance and Revenue of said City, John H. Gernand, as Commissioner of Streets and Public Property of said City, George E. Robinson, as Commissioner of Water Works and Sewerage of said City, and A. P. Norman, as Police and Fire Commissioner of said City, appellees in the above entitled and numbered cause, in the sum of Five Thousand and no/100 Dollars ($5,000.00), for the payment of which to said appellees, their successors, executors or administrators well and truly to be made, we bind ourselves, and each of us, jointly and severally, and each of our executors, administrators, representatives and heirs firmly by these presents.

Sealed with our seals and dated this 5th day of May, 1921.

Whereas, the above named Brush Electric Company, has taken an appeal to the Supreme Court of the United States to reverse the judgment of the District Court for the Southern District of Texas, in the above entitled and numbered cause:

Now, therefore, the condition of this obligation is such that if the above named Brush Electric Company shall prosecute its said appeal to effect and answer all costs if it fail to make good its plea, then this obligation shall be void; otherwise to remain in full force and effect.

BRUSH ELECTRIC COMPANY,
By TERRY, CAVIN & MILLS,
Its Solicitors.

361 GEO. SEALY.
H. O. STEIN.

STATE OF TEXAS,
County of Galveston:

On the 5th day of May, 1921, personally appeared before me, the undersigned authority, George Sealy and H. O. Stein, respectively known to me to be the persons described in and who duly executed the foregoing instrument as parties thereto, and respectively acknowledged, each for himself that they executed the same as their free act and deed for the purposes therein set forth.

And the said George Sealy and H. O. Stein, being respectively by me duly sworn, says, each for himself and not one for the other, that he is a resident and householder of the County of Galveston, State of Texas, and that he is worth the sum of at least Five Thousand and no/100 Dollars ($5,000.00) over and above his just debts and legal liability and property exempt from execution.

H. O. STEIN.
GEO. SEALY.

Subscribed and sworn to before me, the undersigned authority, this 5th day of May, 1921.

[SEAL.] CHAS. S. PEEK,
Notary Public in and for Galveston County, Texas.

The within and foregoing bond is approved both as to sufficiency and form this 6th day of May, 1921.

J. C. HUTCHESON, JR.,
Judge United States District Court,
Southern District of Texas.

(Indorsements:) No. 38 Eq. Brush Electric Company vs. City of Galveston, et al. Appeal Bond, and order of approval thereon. Filed May 6, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

362 In the United States District Court for the Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

UNITED STATES OF AMERICA, *ss:*

To the City of Galveston, H. O. Sappington, as Mayor-President of said City; J. C. Purcell, as Commissioner of Finance and Revenue of said City; John H. Gernand, as Commissioner of Streets and Public Property of said City; George E. Robinson, as Commissioner of Water Works and Sewerage of said City, and A. P. Norman, as Police and Fire Commissioner of said City:

You are hereby cited and admonished to be and appear at the Supreme Court of the United States, to be held at the City of Washington, in the District of Columbia, within thirty days from and after the date hereof, pursuant to an order allowing an appeal filed and entered in the Clerk's Office of the District Court of the United States for the Southern District of Texas from a final decree signed, filed and entered on the 28th day of February, 1921, in that certain suit, being in Equity No. 38, wherein Brush Electric Company is plaintiff and you are defendants and appellees, to show cause, if any there be, why the decree rendered against the said appellant, as in said order allowing appeal mentioned, should not be corrected and why justice should not be done to the parties in that behalf.

Witness the Honorable J. C. Hutcheson, Jr., United States District Judge for the Southern District of Texas, this 6 day of May, 1921, and of Independence of the United States One Hundred and Forty Sixth.

J. C. HUTCHESON, JR.,
United States District Judge for the Southern District of Texas.

363 Service of the within and foregoing citation on appeal is hereby accepted by and for the said appellees and all further notice thereof is hereby waived this 6th day of May, 1921.

FRANK S. ANDERSON,
City Attorney;
McDONALD & WAYMAN,
Attorneys for Appellees.

364 [Endorsed:] No. 38. Eq. Brush Electric Company vs. City of Galveston et al. Citation on Appeal, and Acceptance of Service thereon. Filed May 6, 1921. L. C. Masterson, Clerk, by G. Predecki, Deputy. Terry, Cavin & Mills, Attorneys.

365 *Motion for Extension of Time for Filing Record in Supreme Court and Order Granting Same.*

Filed May 27, 1921.

In the United States District Court, Southern District of Texas, Galveston Division.

No. 38. Eq.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

To the Honorable J. C. Hutcheson, Jr.,
Judge of said Court:

Now comes plaintiff in said cause, by its attorneys, and respectfully represents to the Court:

That the citation on appeal in this cause to the Supreme Court of the United States was signed on the 6th day of May, 1921, and the Statement of the Evidence was approved by the Judge of this Court on the 27th day of May, 1921;

That the record on appeal in this cause is voluminous and it is practically impossible for the clerk of this Court to prepare the transcript of the record for transmission to the Supreme Court within thirty days after the date or signing said citation;

That this cause cannot be heard prior to the opening of the October, 1921, Term of the Supreme Court of the United States, and no injury will result to any party to this cause by temporary delay in filing the record in said Court;

Wherefore said plaintiff, appellant in this cause, prays that an order be entered extending and enlarging the time within which the transcript and record on appeal may be filed in the Supreme Court of the United States so that the same will expire on the 30th day of September, 1921.

FRUEAUFF, ROBINSON & SLOAN,
TERRY, CAVIN & MILLS,
Attorneys for Plaintiff and Appellant,
Brush Electric Company.

366 Upon consideration of the above and foregoing motion it is hereby ordered that the time within which the record on appeal may be filed in this cause in the Supreme Court of the United States, is hereby enlarged so that the same will expire on the 30th day of September, 1921.

J. C. HUTCHESON, JR.,
Judge United States District Court,
Southern District of Texas.

Dated this 27th day of May, 1921.

(Indorsements:) No. 38. Eq. Brush Electric Co. v. City of Galveston et al. Motion for extension of time for filing record in Supreme Court, & order granting same. Filed 27th day of May, 1921. L. C. Masterson, Clerk. By G. Predecki, Deputy.

367 *Clerk's Certificate.*

In the District Court of the United States for the Southern District of Texas, at Galveston.

I, L. C. Masterson, Clerk of the District Court of the United States for the Southern District of Texas, in the Fifth Circuit and District aforesaid, do hereby certify the for-going to be a true and correct copy of the record, assignment of errors, and all proceedings, as called for in the Precipe for Transcript on pages 1 and 2 of said Transcript, in cause No. 38 on the Equity Docket of said Court, entitled Brush Electric Company vs. City of Galveston; H. O. Sappington, Mayor-President of the City of Galveston; J. C. Purcell, Commissioner of Finance and Revenue of the City of Galveston; John H. Gernand, Commissioner of Streets and Public Property of the City of Galveston; George E. Robinson, Water Works and Sewerage Commissioner of the City of Galveston, and A. P. Norman, Police and Fire Commissioner of the City of Galveston, as the same now appears on file and of record in my office.

To certify which, witness my hand and seal of said Court, at Galveston, in said District, this the 8th day of August, A. D. 1921.

[Seal of United States District Court, Southern District of Texas.]

L. C. MASTERSON,
Clerk U. S. District Court, Southern District of Texas,
By G. PREDECKI,
Deputy.

[Endorsed:] No. 38, In Equity. United States District Court Southern District of Texas. Brush Electric Company vs. City of Galveston, et al. Copy of the record, assignment of errors, and all proceedings, as called for in the Precipe for Transcript on pages 1 and 2 of said Transcript.

368 *Opinion of the Court.*

Filed Feby. 9, 1921.

In the District Court of the United States for the Southern District of Texas, at Galveston.

In Equity.

No. 38.

BRUSH ELECTRIC COMPANY

vs.

CITY OF GALVESTON et al.

Messrs. Terry Cavin & Mills, Attorneys for Complainant.
Messrs. Frank S. Anderson, McDonald & Wayman, Attorneys for Defendants.

HUTCHESON, *J.*:

It appears from the record in this case that the complainant is operating under an ordinance of the City of Galveston fixing rates passed July 18, 1918, and that the ordinance complained of here is an ordinance passed by the City of Galveston on July 31, 1919, but never put into effect because of the fact that the complainant secured from the Judge of the Circuit Court, the judge of the District Court being absent from his district, a temporary injunction. The Master in his report makes the following statement:

"As to the Ordinance of 1918, it is equally apparent that the rates put into force by the company under that ordinance exceed the amount necessary to give them a fair and reasonable return by at least $4,000."

He also stated, that the gross revenue under the rates proposed by the ordinance of 1919, which ordinance is attacked by the plaintiff, would have amounted during the period from August 1, 1919 to July 31, 1920, if they had been put into operation, to a sum less than sufficient to pay the operating expenses and maintenance, and allow a reasonable depreciation and return on the value found by him.

369 It is obvious from this statement of the case that the complainants are in no position to ask for injunctive relief, at the hands of this court, since, contrary to established precedent, they are, while enjoying a rate in excess, as the Master found, of a fair return, *are* seeking to join a proposed rate before giving it a trial, in the face of the well-known economic fact, especially applicable to lighting and power business, that a reduced rate will inevitably increase its business.

Ordinarily, this condition appearing, the injunction applied for would be denied and the bill dismissed, with leave to refile after trial, and the Court would proceed no further. In this case, however, since the record shows that the circuit judge who granted the temporary restraining order set the matter down for speedy hearing, and that the city has by agreement permitted the temporary restraining order to continue in force without seeking relief against it, and in view of the further fact that both parties have not only acquiesced in, but have apparently desired that the matter be presented to and passed on by the court, notwithstanding the fact that the ordinance has not had a trial, I shall pass upon the exceptions to the Master's report, and make my own findings on the evidence with a view of determining whether the ordinance of 1919 would be confiscatory even upon the basis of the earnings which complainant does not prove, but estimates it would produce.

In an opinion filed in the case of Galveston Electric Company against the City of Galveston I have set out with fullness and particularity the considerations which govern courts in passing upon questions of this kind.

To the views there expressed I refer, and shall confine the opinion in this case to a brief statement of my views on the issues raised upon the exceptions to the Master's report, premising here, as I did there, that the Master's findings will be taken by me not
370 as conclusive, but only as advisory and in aid of a right conclusion. The first exception of the defendants assigns error to the Master's using as a base what the parties agreed on as the cost of the bare physical property at present prices, undepreciated as of January 1, 1920, of $748,689.

In the Galveston Electric case I have fully discussed the matter of production, and have there adopted the Master's valuation for the property of the Galveston Electric Company of 33⅓% above pre-war value.

The parties in this case, in addition to the agreement on valuation as of date January 1, 1920, also fixed by agreement as the cost of the bare physical property at the average of prices prevailing prior to January 1, 1917, $576,898. The defendants contend that this latter valuation should be taken as a basis.

The index numbers of wholesale prices by groups of commodities furnished by the Bureau of Labor Statistics in evidence in this case shows that taking 1913 at 100, on January 1, 1917 the average of all commodities was 146; on January 1, 1920 was 248. The testimony taken before me makes it clear that these commodity averages are not not controlling, but only helpful, in view of the fact that they take into consideration many commodities not concerned in this valuation. Using the same commodity statistics as to metal and metal products, and lumber and building materials, the record shows that for metal and metal products on January 1, 1917, an index number of 185, and for lumber and building material 106, and on January 1, 1920 metal and metal products 169, lumber and building material 253 prevailed. Both the evidence and common

knowledge established that labor costs have advanced greatly from 1917 to 1920.

I am of the opinion, therefore, that the record before the Master esta' lishes as fairly static a range of prices and values con-
371 siderably above the pre-war figure. I am equally of the opinion that the values taken by the Master as of January 1, 1920, were not static, but were in a process of flux, and that a value somewhere between the two represents a reasonably static figure for the purpose of this investigation.

While it is certain that such views as were expressed by such economists as Fisher, in the quotation from him in complainant's brief, "we are on a permanently high price level, and to talk reverently of 1913 and 1914 prices is to speak in a dead language today, for the new price level is a stubborn reality," are wholly erroneous, because time has established the contrary, I think it equally true that there is no reasonable ground to suppose that labor or material costs will necessarily reach, either now or at any time, a prewar level, because there is no magic in that level and the changes which have taken place in the point of view toward wages, and therefore commodities, are permanent enough to furnish a new basis in place of the old.

The additional evidence taken by me has not served materially to throw any new light upon the matter over that which the record before the Master furnished, but merely tends to confirm the transitory character of the price levels used in the 1920 valuation.

I shall therefore sustain the first exception of the defendants. Having done so, I shall not substitute a value of my own for the reason that in view of the fact that the injunction will be denied, on the ground that the ordinance has had no test, and that in my view, taking the Master's base, the ordinance is still not confiscatory, it will not be necessary for me to hazard a guess as to what value ought to be taken, since I feel sure that before the precise valuation of the plant by me can become important, conditions of prices and values will have settled down to such a definite and permanent basis, as that there will be no difficulty in reaching a proper
372 price basis to apply on any future adjustment in or out of court.

The second exception of the defendants will also be sustained.

It is plain that the Master took neither the actual depreciation as testified to by Hamilton, nor the theoretical depreciation on the basis testified to by Elrod, I shall do likewise.

I concur with the Master in declining to follow the estimates of Mr. Hamilton on this point, for the reason that both in that and other matters his testimony in matters of opinion shows such a partisan bias as to justify its characterization, in the language of the supreme court, as "that most unsatisfactory evidence, the testimony of expert witnesses employed by the parties."

Being deprived of accuracy, and remitted to estimates, I shall take as my depreciation allowance 33⅓%.

I sustain defendants' third, fourth, and fifth exceptions, for the reason that in my view, the allowance as made by the Master for these different items was too high.

The sixth exception I overrule. The record contains nothing from which I can assume that the estimate of $33,000 for material and supplies is too high, and I overrule altogether the contention of the defendants that the needs and expenses of that department of the company, which is devoted to the sale of appliances for use by customers in connection with their use of the company's products, are not to be considered in fixing rates.

In so doing I do not intend to hold that the company has the right to engage in a private business, and charge the public with the expenses and losses necessary to carry it on. I merely hold that under the evidence it seems clear that this is an incident to the business of supplying electricity, and that its profits and its losses should be taken into account with the City just as any other branch of its business.

Of course, this operation must be subject, just as any other
373 department of its business is, to municipal supervision, and the City should in future, have a voice in determining whether it is a branch of the business which ought, in the interest of the public, to be maintained.

In view of the competitive conditions in regard to lighting and power service existing in Galveston, I think it proper to say that nothing herein shall be construed as a judicial approval of any charge which is set up by this company, or any supplies maintained by this company purely for competitive purposes, the result of which, without corresponding benefit, is passed on to the public. The public has a right to service from either or both of the companies at reasonable rates, and these rates cannot be legitimately affected by competitive costs incurred merely for the purpose of shifting business from one company to the other.

The seventh exception to the allowance for Going Value will be sustained, for the reasons fully set out in the Galveston Electric Company case.

The eighth exception, in view of my finding of a lesser value than that set up by the Master, must be sustained.

The ninth exception is clearly good, and will be sustained by me, both as to the amount of depreciation, I finding 4% sufficient, and as to the application of depreciation to the non-depreciable items.

The tenth exception will be overruled. It seems clear to me that in the absence of proof that this so-called "gratuitous work" is constantly and recklessly incurred, the interest of good service and proper treatment of customers permits that the company incur expenses of this character.

Of course, if they are excessive, or constitute a mere cloak for the preference of one customer over another, they condemn themselves. On the face of the record I find nothing to condemn
374 the allowance, and will overrule the exception.

The eleventh, thirteenth and fourteenth exceptions go to the allowance by the Master in operating expenses of certain items.

Since the record does not show that these expenses are usual or customary, or are anything other than occasional, I sustain the exceptions to these items, and will not allow them in determining on

knowledge established that labor costs have advanced greatly from 1917 to 1920.

I am of the opinion, therefore, that the record before the Master esta' lishes as fairly static a range of prices and values con-
371 siderably above the pre-war figure. I am equally of the opinion that the values taken by the Master as of January 1, 1920, were not static, but were in a process of flux, and that a value somewhere between the two represents a reasonably static figure for the purpose of this investigation.

While it is certain that such views as were expressed by such economists as Fisher, in the quotation from him in complainant's brief, "we are on a permanently high price level, and to talk reverently of 1913 and 1914 prices is to speak in a dead language today, for the new price level is a stubborn reality," are wholly erroneous, because time has established the contrary, I think it equally true that there is no reasonable ground to suppose that labor or material costs will necessarily reach, either now or at any time, a prewar level, because there is no magic in that level and the changes which have taken place in the point of view toward wages, and therefore commodities, are permanent enough to furnish a new basis in place of the old.

The additional evidence taken by me has not served materially to throw any new light upon the matter over that which the record before the Master furnished, but merely tends to confirm the transitory character of the price levels used in the 1920 valuation.

I shall therefore sustain the first exception of the defendants. Having done so, I shall not substitute a value of my own for the reason that in view of the fact that the injunction will be denied on the ground that the ordinance has had no test, and that in my view, taking the Master's base, the ordinance is still not confiscatory, it will not be necessary for me to hazard a guess as to what value ought to be taken, since I feel sure that before the precise valuation of the plant by me can become important, conditions of prices and values will have settled down to such a definite and permanent
basis, as that there will be no difficulty in reaching a proper
372 price basis to apply on any future adjustment in or out of court.

The second exception of the defendants will also be sustained.

It is plain that the Master took neither the actual depreciation as testified to by Hamilton, nor the theoretical depreciation on the basis testified to by Elrod. I shall do likewise.

I concur with the Master in declining to follow the estimates of Mr. Hamilton on this point, for the reason that both in that and other matters his testimony in matters of opinion shows such a partisan bias as to justify its characterization in the language of the supreme court, as "that most unsatisfactory evidence, the testimony of expert witnesses employed by the parties."

Being deprived of accuracy, and remitted to estimates, I shall take as my depreciation allowance 33⅓%.

I sustain defendants' third, fourth, and fifth exceptions, for the reason that in my view, the allowance as made by the Master for these different items was too high.

The sixth exception I overrule. The record contains nothing from which I can assume that the estimate of $83,000 for material and supplies is too high, and I overrule altogether the contention of the defendants that the needs and expenses of that department of the company, which is devoted to the sale of appliances for use by customers in connection with their use of the company's products, are not to be considered in fixing rates.

In so doing I do not intend to hold that the company has the right to engage in a private business and charge the public with the expenses and losses necessary to carry it on. I merely hold that under the evidence it seems clear that this is an incident to the business of supplying electricity, and that its profits and its losses should be taken into account with the City just as any other branch of its business.

Of course this operation must be subject, just as any other
378 department of its business is, to municipal supervision, and the City should in future have a voice in determining whether it is a branch of the business which ought, in the interest of the public, to be maintained.

In view of the competitive conditions in regard to lighting and power service existing in Galveston, I think it proper to say that nothing herein shall be construed as a judicial approval of any charge which is set up by the company or any supplies maintained by the company purely for competitive purposes, the result of which, without corresponding benefit, is passed on to the public. The public has a right to service from either or both of the companies at reasonable rates, and these rates cannot be legitimately affected by competitive costs incurred merely for the purpose of shifting business from one company to the other.

The seventh exception to the allowance for Going Value will be sustained, for the reasons fully set out in the Galveston Electric Company case.

The eighth exception, in view of my finding of a lesser value than that set up by the Master, must be sustained.

The ninth exception is clearly good and will be sustained by me, both as to the amount of depreciation, I finding 4% sufficient, and as to the application of depreciation to the non-depreciable items.

The tenth exception will be overruled. It seems clear to me that in the absence of proof that this so-called "gratuitous work" is constantly and recklessly incurred, the interest of good service and proper treatment of customers permits that the company incur expenses of this character.

Of course, if they are excessive, or constitute a mere cloak for the preference of one customer over another, they condemn themselves. On the face of the record I find nothing to condemn
379 the allowance, and will overrule the exception.

The eleventh, thirteenth and fourteenth exceptions go to the allowance by the Master in operating expenses of certain items.

Since the record does not show that these expenses are usual or customary, or are anything other than occasional, I sustain the exceptions to these items and will not allow them in determining on

the schedule of operating expenses for the future, but will in lieu thereof allow an arbitrary estimated sum of $5,000 to cover all such contingent matters as may arise during the year.

The twelfth exception goes to the allowance by the master as an operating expense, of the sum of $14,024.27 for new business expense.

I sustain this exception, but not upon the ground urged by the defendants, for, as I have already stated in overruling the sixth exception, I see no reason to criticise the maintenance by the company of this departmentt. I disallow it, however, for the reason that there is no proof in the record before the Master from which it might properly be assumed that such amount would be a future operating loss, and that the evidence taken before me as to the business in the last half of 1920 shows that the probabilities are that the department will operate at a profit rather than at a loss, in future. Certainly the evidence that the business is growing, and that conditions are better in shipping, and the fact that the lower rates under the ordinance sought to be enjoined will go into effect, ought to cause this department to show a profit, rather than a loss, in future.

The fifteenth exception of the defendants will also be sustained as I think it clear that since, if these items existed, they would be charged to capital account, their obsolescence or loss ought to be taken care of in the depreciation reserve.

The sixteenth exception is leveled at the action of the Master in allowing for annual maintenance the sum of $47,000.

It is true that according to the books of the company this
375 amount was actually charged as expended for maintenance during the fiscal year ending July 31, 1920, and the record for the year ending December 30, 1920, shows a maintenance charge of $65,000. Or, looking at it not from an annual, but a semi annual basis, a maintenance charge for the six months ending December 31, 1920 of $38,000 or an annual basis of $76,000. It is clear that the Master was not justified in taking as his basis for maintenance charges the experience for the six months ending July 31, 1920 and that the exception should be sustained.

There is a legal doctrine which denies to matters occurring post litem motam the authenticity of those occurring before. This case most forcefully illustrates the wisdom of that doctrine.

In Knoxville vs. Water Co. 212 U. S. 15 the supreme court said:

"The precise subject of inquiry was, what would be the effect of the ordinance in future? The operations of the preceding fiscal year, or any other past fiscal year were valueless if the year were abnormal, and were only of significence so far as they foretold the future."

In the same case the court said:

"The ordinance had not actually been put into operation, the inferences were based upon the operations of the preceding year, and the conclusion of the court below rests upon that most unsatisfactory evidence, the testimony of expert witnesses employed by the parties." * * * Regulation of public service corporations,

which perform their duties under conditions of necessary monopoly, will occur with greater and greater frequency as time goes on. It is a delicate and dangerous function, and ought to be exercised with a keen sense of justice on the part of the regulating body, met by a frank disclosure on the part of the company to be regulated. * * * On the other hand, the companies to be regulated will find it to their lasting interest to furnish freely the information upon which a just regulation can be based."

The history of this company shows its maintenance record for the six calendar years preceding July 1919, when the temporary injunction was secured and this controversy commenced, as follows:

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1913	$11,619.84
1914	13,038.94
1915	13,065.43
1916	16,379.10
1917	14,330.83
1918	13,113.05

The Master's report shows maintenance for the fiscal years ending July 31, 1920:

For 1917	$15,199.80
1918	14,339.05
1919	20,631.13

The record since the institution of this suit, and since what the counsel in this case call the "test period," meaning the period which must be taken by the courts as a guide to the future, is as follows:

Calendar year, 1919, which includes six months after the controversy	$36,222
For the fiscal year ending July 31, 1920	47,000
For the calendar year ending Dec. 31, 1920	65,000
" " fiscal year ending July 31, 1921, a rate has been established, aggregating for the year	$76,000

in the face of the fact that for the six years preceding the valuation controversy, the average maintenance was $13,000.

I realize that some increase in maintenance figures would be reasonably explainable on the ground of increased cost, but the index figures for 1918, when the maintenance charge was only $13,000, show an average of 196, for 1919 an average of 212 and for 1920 an average of 248. In other words, while the maintenance for 1918 was $13,000, the maintenance for 1919 was two and a half times as much, with an increase in costs of only sixteen points, or less than 10%, and a cost for 1920 of $64,000, or 500 per cent, with an increase over 1918 costs of 25%.

It is plain, therefore, that the explanation of increased cost over 1918 will not do; neither will the explanation of deferred main-

tenance suffice, for the reason that the maintenance cost for 1917 and 1918, the years of our participation in the war, were by
377 the record exactly the same as the four years preceding our entry, and if still it is insisted that this heavy increase of maintenance represented deferred maintenance, it is apparent that the large amounts already spent have been sufficient to absorb a deferred maintenance of over five years.

I think it therefore plain the maintenance cost since 1919 must be entirely discarded, and that the court should fix a figure for this case, or until an actual experience not dictated by prudence justifies revision, at the very liberal figure of $25,000, based upon an estimate of 5% of the depreciable value of the property.

In view of the fact that I have sustained the exceptions of the defendants challenging the valuation reached by the Master, the exceptions of the complainant one, two and three will be overruled, because if the Master did make mathematical errors as set out in those exceptions, they became immaterial in view of my ruling on defendants' exceptions and my general finding setting up a wholly different valuation.

Exceptions four and five will be overruled, because it is apparent that the Master liberally and fully valued complainant's property.

The sixth exception of complainant will also be overruled, for the reason that 8% is, in the opinion of the court, a fair rate of return.

The seventh exception will be overruled, because the ascertainment is of the value of the plant as it is now in operation, and both the depreciation allowance and rate of return should be figured upon that value as discovered after depreciation allowance has been made, and not upon its undepreciated value.

The revision of the figures of the Master, in the light of
378 the rulings upon the exceptions, produces the following result which will be taken by me as correct for the expression of my opinion on this case, with the proviso already made that while I will assume, for the purpose of testing the 1919 ordinance in the light of its estimated, but not actual results, the base value taken by the Master, I sustain the exception to that finding and am not actually adopting that value.

From the valuation as of January 1, 1920, of $784,689 as taken by the Master in order to arrive at the accrued depreciation which I have stated, I have taken at 33⅓%, I deduct real estate, $20,000, office and utility equipment $15,757, working capital, $35,695, material and supplies, $33,750 reaching a value of the depreciable physical property of *of* $669,000. To this physical value I add for contractors' expense and engineering supervision 10% or $66,900, and 5% or $33,450 covering organization, legal expense, interest and taxes during construction, omissions and contingencies.

The addition of these two items produces a total of depreciable property of $769,000; adding 33⅓% or $256,000 for accrued depreciation, a value of $512,000 is arrived at as the depreciated value of the depreciable items, and adding to this the $105,000 for non-

depreciable items, we reach a total of $612,000 as the fair value of the plant for rate purposes.

As already stated, the plant being valued by me as a plant in use, with an organization complete and going, and with a community ready, anxious and willing to take the service, I had added nothing to the value of the plant for going value.

Having ascertained the value, and fixed as a proper allowance 4% upon depreciables for depreciation annuity and 8% upon the value as a fair rate of return, we arrive at the following set up by taking the estimated income under the 1919 ordinance stated by the Master, and deducting from the operating expenses allowed by the Master the items disallowed by me, we have—

379	Operating income—1919 Ordinance (Estimated)		$277,000
	Operating Expenses ($181,087.44 company's books, less $20,924 disallowed by me	$160,163	
	Maintenance allowed by me	25,000	
	Depreciation	21,000	
	Return	50,000	
			$256,163

showing an excess of earnings over fair return of $21,000.

If all of the operating claims disallowed by me were restored the figures resulting would still show a sufficient return.

In these operating figures taxes are included, with no separation between ad valorem and income taxes. If income taxes are deducted, a further excess return will of course appear.

The figures of operating expenses and return for the six months ending July 31, 1920 make an even better showing, for the company.

In the testimony taken before me, as well as before the Master and in the argument before me, it was made evident that this company is now operating under a favorable oil contract of long standing, which will shortly expire, and that the price of oil has enormously increased.

As to this and all similar matters which will either reduce or increase costs in the future, it cannot be assumed by this court that a rate making body, charged with the function, will not, upon proper showing, give speedy and reasonable relief.

Let a decree be entered dissolving the temporary restraining order heretofore granted, refusing the injunction prayed for, and at the option of the complainant, either dismissing its bill without prejudice, or passing same to the suspense docket, with leave to again call the matter up after a trial of the ordinance, or before trial, should unusual and extraordinary conditions occur, making it imperative to save complainant's property from confiscation.

J. C. HUTCHESON, JR.,
Judge.

(Indorsements:) In Equity No. 38. In the District Court
380 of the United States for the Southern District of Texas at Galveston. Brush Electric Company, Complainant vs. City of Galveston et al., Defendants. Opinion of the Court. Filed 9th day of Feb. 1921. L. C. Masterson, Clerk. By J. L. Sexton, Deputy.

381 *Clerk's Certificate.*

In the District Court of the United States for the Southern District of Texas at Galveston.

I, L. C. Masterson, Clerk of the District Court of the United States for the Southern District of Texas, in the Fifth Circuit and District aforesaid, do hereby certify the foregoing to be a true and correct copy of Opinion of the Court, filed 9th day of February, 1921, in cause No. 38 on the Chancery Docket of said Court, entitled Brush Electric Company vs. City of Galveston, et al., as the same now appears on file in my office.

To certify which, witness my hand and seal of said Court, at Galveston, in said District, this the 8th day of August, A. D. 1921.

[Seal of United States District Court, Southern District of Texas.]

L. C. MASTERSON,
Clerk U. S. District Court, Southern District of Texas,
By G. PREDECKI,
Deputy.

[Endorsed:] No. 38. In Equity. United States District Court, Southern District of Texas. Brush Electric Company vs. City of Galveston, et al. Copy of Opinion of the Court. Filed February 9, 1921.

Endorsed on cover: File No. 28,507. S. Texas, D. C. U. S. Term No. 179. Brush Electric Company, appellant, vs. The City of Galveston, H. O. Sappington, as mayor-president of the city of Galveston, et al. Filed September 26th, 1921. File No. 28,507.

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